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[*For continuation of "Analysis of Advertisements" see page* cv.]

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THE BUILDER

A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR.

WITH WHICH IS INCORPORATED "THE BRITISH ARCHITECT."

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POSTERS AND RAILWAY STATIONS.

THE announcement that seventeen members of the Royal Academy have been commissioned to design posters for the London Midland and Scottish Railway Company, opens up a new chapter in the history of British art, though we must not forget the excellent work in this direction which has been done by the Underground Railways. The incident has been hailed everywhere by the public Press as a distinct advance in the progress of public taste. We need not humbug ourselves about the dual role of the poster primarily designed to advertise and at the same time inculcate a love for the beautiful; nor need we waste any time discussing the philosophy of public taste in relation to an art which has been thrust upon it. So far as we are aware the public has had small choice in the matter, but apart from any question of motive we think nothing but good can come from this new development.

The significant facts to us—in what the newspapers rightly term an enterprise—are that artists have bridged the gap between commerce and art, and that the alliance has been met everywhere with approval. The policy of the Railway Company is not, we assume, to convert its stations into "outdoor galleries" for the sheer love of art; nor can we assume any difference in principle between posters of places and posters to advertise nerve tonics. The simple truth is that we have found the theory of art for art's sake to be difficult to maintain (if we ever really believed in it) in a world which has steadily refused to believe in fine art relegated to a spare-time hobby. On the other hand, the conventional view of fine art has been responsible for the limited sphere which art has occupied, regardless of any social responsibilities.

There are many directions in which we would like to see an alliance between commerce and art, but there is something ironical in the fact that distinguished artists should come to an important decision and lend their aid in the most extreme development of a commercial age. We have no objection to the theory that if we must have posters let us have the best; we merely record it and leave the philosophy to future historians.

In our opinion the two important points which should be of interest to all architects are these: that the art of painting has not only given a definite lead in the relations between art and commerce, but it has indirectly encouraged advertising by assisting to raise the artistic level of the poster. As we have indicated, we are not impressed with the poetic ideals which would convert railway stations into picture galleries and provide opportunities for educating public taste. Nor do we see why our railway stations should be the dreary and depressing places in which we are compelled to while away a certain amount of our time. We can only conclude that if railway companies believed there were anything to be gained financially by giving us better designed and less ugly stations we would see a desire to improve them, with or without the posters. We assert that any architect of moderate attainments could design railway stations which would give an added joy to railway travelling. It is difficult to conceive anything more depressing than the monotonous stations throughout the country, all designed at headquarters and all alike in standardised materials. Not the slightest attempt is made to consider local materials or traditions characteristic of the country, and the presence of a refreshment bar is the sole distinguishing mark for railway travellers.

We raise the questions whether railway companies will now consider the architectural appearance of their stations, and whether architects would see their way to enter into the spirit of this popular movement to raise the standard of public taste!

We bear in mind that there is a world of difference between painting and architecture, and that the artist's objective is not always easy to define. Painting is a conventional art, or, as Hazlitt puts it, "In writing, you have to contend with the world; in painting, you have only to carry on a friendly strife with Nature." Architecture, on the other hand, is perpetually engaged at every point with the practical and utilitarian things of life. It is a structural art, and for these reasons the attitude of the architect, as an artist, is infinitely more complicated than that of the painter. The painter may adhere to any exclusive theory without disturbing the public; the architect, lacking the unfettered freedom of the painter, may, and frequently does, try to adhere to some æsthetic philosophy, and the public may suffer (or may not) if the elusive ends of civilisation do not compel him to adjust his outlook.

We are back again at the position we have been discussing in these columns for several months—the relation of architecture to commerce. It would be more accurate perhaps to state the problem in terms of the architect in relation to commercial values. There is no subject which opens up a wider vision to the architect than this search for the true interpretation of commercial architecture, and there is no subject so deserving of attention. There are many subjects of which it might be said that it does not matter what we think, and we know that this view is held by many thoughtful people in regard to architecture. The inference, as we gather it, is that architecture does conform to life whether architects are aware of it or not, or whether they approve or disapprove of our social development. We have been told that it does not matter what architects think; it is what they do. We have always preferred to invert this thought in our minds, believing that the only approach to living architecture must be based upon logical reasoning.

We recommend the young architectural student to work out for himself a working philosophy dealing with commerce and art. If he begins on the assumption that commerce is wrong he will get no farther, but, taking a lead from the recent attitude of the painter, he may be able to outline what he thinks should be the true architectural expression of commerce. We know what commerce can express at its worst; we think we know what a civilised people would try to express. If commerce must be kept in its place, he must define what that place is, and still be able to show a fine reserve of power.

The student must learn to deal fairly with many buildings he has come to regard as "commercial" because they are failures. The fault does not lie with commerce because of the assumption that it is incapable of any decent architectural expression; on the contrary, the architect in the past has failed partly through inability and partly through unfortunate compromises. An impartial historian may not consider our commercial architecture to be full of inspiration, but we can hardly expect him to analyse whether it was as good and no better than the commodities which the buildings were designed to sell.

It is a characteristic touch that just when the public is promised more artistic posters, certain companies should wisely decide to remove their roadside signs from rural districts. And so the day is coming when it will be a better advertisement to refrain from advertising on buildings, when the architect will realise that fine architecture is its own advertisement when it has need of none.

NOTES.

The R.I.B.A. Gold Medal.

PROFESSOR LETHABY'S inability to accept the Royal Gold Medal which the Council of the Royal Institute of British Architects proposed to award him has already been the subject of a good deal of inevitable comment, as no doubt it will be for some time to come. It recalls the similar action of Ruskin, but whereas he declined the honour as a protest "against the artistic vices of the age," the only explanation we have of Professor Lethaby's refusal is contained in the announcement by the President of the Institute at the meeting on Monday: "I am not able to-night," said Mr. Gotch, "to follow the usual formula suitable for the occasion, because Professor Lethaby, owing to certain personal scruples and his extreme modesty, feels it entirely out of his power to accept the medal; that being the case, it is needless to go on with the election, and the Council have decided that no further steps be taken with regard to the Royal Gold Medal this year." While we regret Professor Lethaby's decision, we are bound to respect the scruples of any distinguished man who declines a well-merited and unanimously proposed honour; but at the same time we do not understand why any such nomination should be made public until some preliminary assurance of acceptance is obtained. Failure to do so creates general embarrassment, and may lead to much misunderstanding. As it is, no one will think the worse of the distinguished Professor for his refusal of the honour, nor of the Council of the Institute for its desire to bestow it.

The Bestowal of Honours.

A CORRESPONDENT writes:—"Whatever the reasons which may have decided Mr. Lethaby to decline the Gold Medal of the R.I.B.A., and we are in no position to assume what they may have been, his decision is not without significance. The bestowal of honours has been so much at random, and so much the endowment of those who sought them, rather than those who sustained them, that their value has become much discounted. The influence of such honours varies according to the qualities of the recipients; in some cases, no doubt the majority, the society honours the individual; in a very few, and perhaps the only important cases, the recipient confers an honour on the Society in accepting it. But if it is seen in a majority of cases that the bestowal of an honour is the reward of much self-seeking for it, and that this influence clouds the lustre which should belong to the bestowal of honours, the really best men will look askance at the whole thing, feeling, like the classic example, it more likely they will be remembered without a statue! And such is the case to-day. A generation or two has to pass before, as the result of the lapse through time of so many of the indiscriminately bestowed honours, the atmosphere is once more clear enough to distinguish more truly, and the bestowal of honours justified again as given only, not to those who seek them, but to the best, who deserve them. And we have had to notice of late that this has seldom been the case."

The Fine Arts Commission.

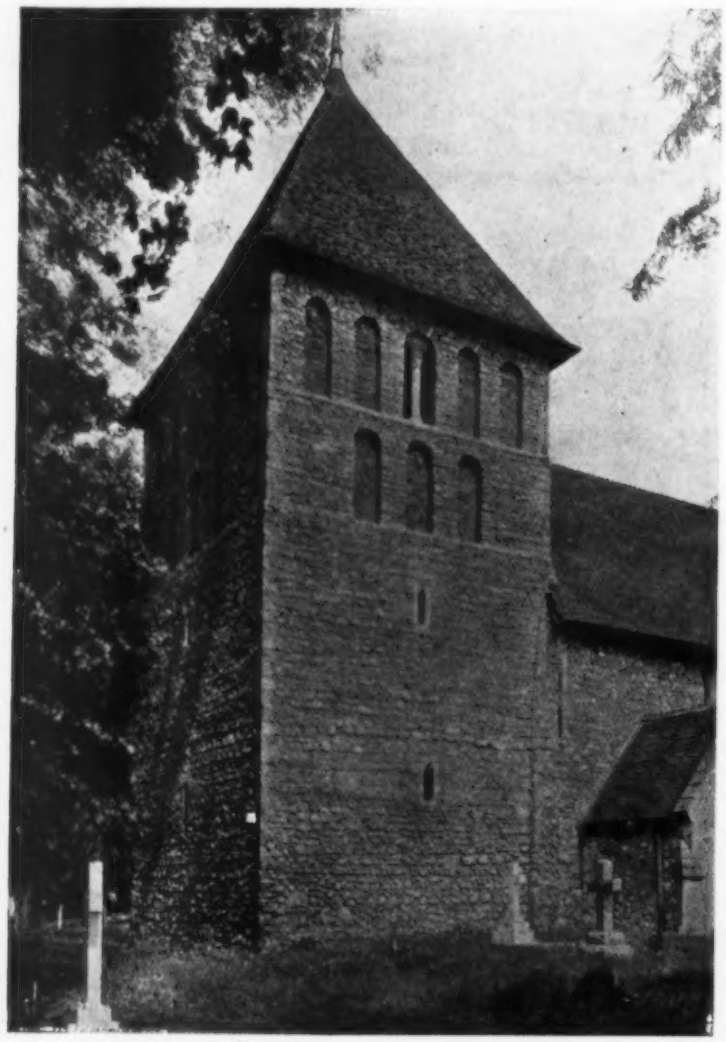
THE appointment of Mr. H. Chalton Bradshaw as secretary to the recently appointed Fine Arts Commission is another tribute to youth; but, though a young man, Mr. Bradshaw has had many notable successes as an architectural student, while as a practising architect he won, in collaboration with Mr. G. Ledward, sculptor, the open competition for the Guards' Memorial. Mr. Bradshaw received his architectural training at the Liverpool School of Architecture, under Professor Reilly, and besides securing the Lever prize he won the Rome Scholarship in Architecture. During the war he served in the Somme battle, at Vimy Ridge, and Passchendaele, and afterwards went to Italy, where he distinguished himself, was promoted to the rank of captain, and was awarded the Croix de Guerre. Such an appointment carries with it great possibilities, and we must all hope Mr. Bradshaw will fulfil them.

The Chaos of Traffic.

THE streets of London are rapidly approaching a condition of chaos, writes Mr. H. V. Lanchester, and when we consider what an important feature of the daily life and well-being of our cities this matter of transport is we could suppose that it should be one of the most vital of all our problems. That the building of St. Paul's Bridge will affect it goes without saying, but—how will it affect it? Can anyone, whether inclined for the bridge or against it, pretend to forecast with any close approach to accuracy the result of such a new bridge? No one can have noted the congestion at Oxford-circus without regrets for the present state or apprehension for the future. When will the state of things become quite intolerable? Mr. Lanchester's article in the *Daily News* is very pertinent and timely, and it is only one of numerous calls from experts for some drastic remedy.

A Conference on Suburban Traffic.

THE Traffic Board to be set up if the Bill shortly to come before Parliament becomes law will certainly be more of a critical than an imaginative character,



Late Eleventh-Century Tower, St. Mary's, Corringham, Essex.

says Mr. Lanchester, who finds the main difficulty in suburban traffic to lie in the position of the termini which leave passengers in the condition of a half-finished journey which they have to resume by 'bus or tube. Amongst the suggestions he offers is a dive down by a spiral tunnel where the terminus is a large one. The gist of Mr. Lanchester's criticism lies in the suggestion that the various railways should confer together on this important matter and lay certain proposals before the Traffic Board. Here, at any rate, is a practical suggestion—not something to argue about in a detached and platonic way, but to set about immediately. Here we have an admittedly great evil and a sensible suggestion for its remedy. Will anything be done?

London as a "Corridor."

THINKING for fifty years hence, a writer in *The Times*, Mr. Rees Jefferys asks if London is to be made a "corridor" for traffic passing through it from north to south. If the City of London is a natural and proper "corridor" for the daily increasing traffic of Greater London, then build St. Paul's Bridge and face the large expenditure in street widenings and loss of rateable value which it will entail, says the Roads Improvement Association.

The Rural Industries' Bureau.

THE series of leaflets issued by the Rural Industries' Intelligence Bureau, from whom we have received copies and to which we propose later to refer at greater length, contain much that is very helpful and encouraging, as showing the awakening to the need of restoring village life and country industries. These leaflets, which are reprinted from the *Journal of the Ministry of Agriculture*, deal not only in general terms with the subject, but make suggestions and offer instruction on various definite industries connected with country life, such as metal work, wood work, basket-making, hand weaving, and spinning; also other industries, which, it is hoped, may be fostered, such as the utilisation of straw, peat, and waste products. The Committee of the Bureau is a large one, and includes various names well known for their association with home and country interests. The aim, so important, is one of too much complexity for organisation alone to achieve, and the Committee seems rather overweighted on this side, as if the economic and administrative sides were regarded as sufficient in themselves; while there is a regrettable absence from the Committee of the names of well-known craftsmen or men with first-hand practical acquaintance with materials.

"Great Sir Hughes": Early Seventeenth-Century Building at Great Baddow, Essex. (*See p.* 373.)

Lord Curzon and St. Helena.

THE Marquess Curzon of Kedleston, in his "Tales of Travel," just issued, says that before going to St. Helena in 1908 he made a careful study of every available book about Napoleon's residence in that island. Consequently, when he entered "Longwood," the scene of the Emperor's five years' exile and ultimate death, he "was familiar with the identity and history of every room in the building as though he had lived in the house himself." This knowledge was put to an unexpected test. On his entering the building for the first time the French Consul was about to conduct a party of French visitors round the premises. In the entrance room, upon the walls a notice was hung, "Salle d'Attente." Here the uses of the apartment were being expatiated upon as having happened during the days of Napoleon. "This," said the Consul, "was the reception room where His Majesty received his guests." "Excuse me," interjected Lord Curzon, "this was, at any rate, in the first few years of the Emperor's residence, the billiard room, and the room was always known and described as such." The Consul had never heard of this and observed that as the gentleman who had spoken seemed to have a greater acquaintance with the contents of "Longwood" than himself, "perhaps he would take the company round." Thus Lord Curzon acted as guide in a house he had never previously seen.

Academic Dress.

AT a meeting of the R.I.B.A. on Monday, Mr. C. Ernest Elcock's resolution, "That the resolutions on the subject of Academic Dress passed at the general meetings on April 30, 1923, and on January 7, 1924, be rescinded, and that no further action be taken in the matter of the proposed Academic Dress," was passed by 45 votes to 22. With such a big majority in favour of this resolution, we hope the matter will now be allowed to rest.

GENERAL NEWS.

Professional Announcement.

Mr. Henry F. Mence, Surveyor to the St. Albans Rural District Council, has taken into partnership Mr. Leslie Ross, A.R.I.B.A., as from March 1. The firm will continue to practise as architects and surveyors, under the title of "Mence & Ross, A.R.I.B.A.," at 11, St. Peter's-street, St. Albans, Herts.

Liverpool University.

At a meeting of the Council of the University, held recently, it was agreed that the title of Associate Professor be conferred on Mr. L. B. Budden, M.A., A.R.I.B.A., Senior Lecturer in the Theory and Practice of Architectural Design in the School of Architecture.

Architects' Estates.

Lieut.-Col. Stephen Leonard Tennant, R.E. (T.F.), of Ballidon, Wilbraham-road, Alexandra Park, Manchester, architect (net personalty, £67,714), £69,819.

Mr. Charles Edward Clayton (50), of Prince Albert-street, Brighton, and Holmbush Lodge, near Henfield, architect and surveyor (net personalty £10,155), £29,221.

Mr. Edwin Rutherford, of Rector View, Shincliffe, Durham, formerly of Durham, architect's assistant (net personalty £3,262), £5,501.

University of London.

We take the following extracts from the annual report of the University of London:—During the Session 1922–23, the total number of students enrolled was 3,005. Of the total, 2,490 students came from homes in the United Kingdom; 206, including 75 post-graduate and research, came from various parts of the Empire. The report also includes a summary of the work of the two special Schools of Architecture and Librarianship, showing that these two schools are working effectively. The Bartlett School of Architecture, which combines the work at one time carried on separately at King's College and University College, is now housed in the building provided by the late Sir Herbert Bartlett, and is under the direction of Professor A. E. Richardson. It includes a day school, an evening school, and a post-graduate atelier. There is also a Town-Planning Department, under the direction of Professor S. D. Adshead.

Soane Museum.

Sir John Soane's Museum reopened on March 4. It is open free to the public, 10.30–5, on Tuesdays, Wednesdays, Thursdays, and Fridays, during March, April, May, June, July, and August. At other times by cards obtained from the Curator.

Lincoln Cathedral.

At a recent lecture at Lincoln Sir Francis Fox referred to the work which had been done at St. Paul's, Winchester, Exeter, and Lincoln. The damage at St. Paul's was due, he considered, to mistakes in design and bad foundations; at Winchester to the cathedral being built on a bog; at Exeter to the roof having slipped during erection; and at Lincoln to an earthquake.

During the course of his lecture Sir Francis Fox complimented those responsible for the scaffolding on the north-west tower at Lincoln, which, he said, was a monument of skill and ability.

Architecture Club Exhibition.

The Architecture Club's second exhibition at Grosvenor House, which the Duke of Westminster has again placed at the disposal of the Committee, will be opened by the Marquis Curzon of Kedleston on March 11, and will be open to the public from March 12 to April 17 inclusive. The exhibition this year, under the title of "British Architecture of To-day," will comprise four sections—"Recent Architecture" (since the war), "Gardens" (of the last 20 years), "Housing" (since 1913), and "Memorials." The exhibits will consist of large photographs and models, and in addition to models of modern buildings there will be a display of garden statues and pottery by Mr. and Mrs. Harold Stabler, Mr. Percy Bentham, Miss Anne Acheson, Miss Phyllis Clay, Mr. Alec Miller and others. Lady Constance Hatch has made another collection of "Old Models," which includes a series of twenty-seven models of English and French cathedrals, lent by the Dean and Chapter of Canterbury, and Barry's models for the three towers of the Houses of Parliament, lent by H.M. Office of Works. A continuous lantern show will again be provided, and a special rota of lecturers will supply informal afternoon talks with the lantern views.

COMPETITION NEWS

Truro Public Hall.

The assessor, Sir A. Brumwell Thomas, F.R.I.B.A., has made the following award in this competition:—

First (£100): Messrs. Thornely & Rooke, of Prince's-square, Plymouth.

Second (£50): Mr. F. G. Drewitt, of Messrs. Cowell, Drewitt & Wheatley, of Penzance.

Ebbw Vale Memorial.

The design of Mr. R. Evans, the Craftsmens' Guild, 64, The Oval, London, has been selected in this competition.

Other Competitions.

Other competitions still open include the following (the dates given are, first the sending-in date, and second the issue of *The Builder* in which full particulars were given):—Essays on Heating and Ventilating (Mar. 31; Nov. 9, 1923). Industrial Designs (June; Dec. 21, 1923). National Theatre (April 26). Monument to Sir Wilfrid Laurier (April 3; Dec. 14, 1923). Belfast Union Lighting (March; Nov. 9, 1923). Dunfermline War Memorial (March 8; Dec. 28, 1923). Ross-Smith Memorial (Sept. 30; Feb. 1). Newcastle Fire Station (March 27; Feb 1).

Little Warley Hall: Early Sixteenth-Century Building at Little Warley, Essex. (*See p.* 373.)

ITALIAN TRAVEL NOTES.

BY THEODORE FYFE.

III.—VERONA, VICENZA, PADUA AND VENICE.

THERE are surely very few towns in the world that have so much charm as Verona. There are really several towns in it, each with its separate atmosphere, but all merged into what we know as "Old Verona." Strategically, it has an important position, as the Brenner Pass leads almost directly from it, northwards, to Trent and Innsbruck in the heart of the Austrian Tyrol. The ancient part of the town lies in the hollow of a great bend in the swiftly flowing river Adige, so that two sides of it are river; and the third, or land side, is bounded by the mediæval wall which connected the two river points. San Michele's walls, with their great gates, mark the limit of expansion of this land side. There is also a little town-annexe (Veronetta), on the further bank of the river.

Verona is of first-class importance to the student in three aspects—Roman, Mediæval, and Renaissance. The Roman remains include the finest amphitheatre outside of Rome, in a wonderful state of preservation. The mediæval work is important in a dual aspect; on the one hand the Romanesque element, culminating in one of the finest churches in Italy—San Zeno Maggiore—and on the other hand, the Gothic element, in Sant' Anastasia, and the tombs of the family of della Scala (the Scaligeri); for it must not be forgotten that Verona is the western outpost of the province of Venetia, and the Venetian Gothic element is everywhere apparent. For Renaissance it is enough to mention San Michele, who can be studied at Verona as nowhere else. There are two important palaces by him—the Palazzo Bevilacqna and the Palazzo Pompeii—and the great gateways, the Porta del Palio and the Porta Nuova. Another notable piece of Renaissance work is the building known as the "Gran Guardia Vecchia," built after San Michele's time, early in the seventeenth century.

Though San Zeno and the Duomo are both wonderful buildings, and San Fermo Maggiore should not be missed, the most impressive mediæval building in Verona is its great church of Sant' Anastasia, a peculiarly fine building of the late thirteenth century, with a most complete scheme of colour decoration of the fifteenth century in its vaulting. The campaniles of these Veronese churches are most effective in the changing views one gets from the noble bend of the river. From this openness one can pass quickly into the crowded part of the town—the Piazza dei Signori, with its celebrated early Renaissance Palazzo del Consiglio or town hall. The whole of this region is dominated by the fine tall tower of the Municipio, and near by we can see the warrior tombs of the Scalas, with that strong Venetian influence that is so prevalent at Verona.

It is not easy to speak of the gateways of San Michele, but they are superb pieces of semi-military architecture by a man who was as much a great engineer as a great architect. Their approaches are excellent, particularly that to the Porta Nuova, with its avenues of lime trees. Between these imposing roadways and their gates and the market part of the town is the spacious atmosphere of the Piazza del' Arena. And so one has the whole content—the riverside churches, the picturesque mediæval centre, the Roman spaciousness, and the finely conceived outskirts—that makes up the unapproachable charm of Verona.

Vicenza is the next important town on the line to Venice. It is undeniably an old-world town with a flavour that is all its own, though it is rather dirty; and it must be seen for Palladio's work, if for nothing else. Even more than San Michele at Verona, Palladio is in complete evidence at Vicenza; and his work is always beautifully detailed, and often boldly and finely conceived. The important building known as the "Basilica Palladiana," the "Casa del' Diavolo" (a fragment), the Palazzo Prefettizio (designed as a triumphal monument after the victory at Lepanto), and the Museo Civico (in the Palazzo Chiericati), all deserve the most careful study. Nor should two others of Palladio's buildings be neglected. One of these is the curious little theatre—almost a toy theatre, it is so small in scale—called the Teatro Olimpico; the other is the more famous Rotunda—the prototype of Lord Burlington's villa at Chiswick—which is outside Vicenza, but should on no account be missed. Vicenza also contains an interesting Duomo, chiefly in Gothic, with some fine moulded brick cornices; and some good old bits of houses here and there, which give one plenty of sketching material in a morning ramble. There are two good columns in the Piazza dei Signori.

In Padua, which is quite near to Venice, the traveller will find many things of outstanding excellence, and one of them, the Café Pedrocchi, may be mentioned here, and it will certainly cheer his bodily man. But Padua, like Milan, contains a world's masterpiece in the Gattemalata equestrian bronze, by Donatello, and therefore must be considered as a place of pilgrimage. We can add to these a really great church—Sant' Antonio—some wonderful early Titians in the Scuola del' Santo, some equally great Mantegnas in the Church of the Eremetani, and the Aerna Chapel with its Giotto frescoes. There is also a spacious dignity about Padua, as we should expect in one of the most renowned seats of learning in Italy.

Sant' Antonio is the patron saint of Padua, and he seems to dominate the whole town. His Church certainly dominates the mind of the visitor. It is of great size and the grouping of the exterior is extremely picturesque and interesting. In its main lines the interior is one of the grandest in Italy, or, in fact, anywhere. The domes over the nave compartments, with their extreme simplicity of treatment, give one the effect of a Byzantine basilica. Completely decorated in colour (as one can see it ought to have been, from the fragment in the westernmost dome), it would have been splendid as well as imposing. The details of accessories are beautiful and the student could easily spend a week in such a place. The fine pulpit has been drawn by Nesfield, but there are bronze gates and massive candelabra, and an early Renaissance chapel of Sant' Antonio, which is full of feeling.

One could write at length about the other excellencies of Padua that have been mentioned, but they are too well-known to need description. The roof of the Eremetani Church is of wood, coved in tiers and coloured in blue and gold, an original and fine treatment. It can be compared to the somewhat similar one in San Stefano at Venice. The Church of Sta. Guistina has a very interesting Renaissance interior, the roofing especially being a fine study in vaulted and domical treatment. Mr. Bolton gives plan and sections in his valuable article on domical churches.

Finally, Venice. It is surely too great a subject to write much about in an obvious way. Be it pictures, or decorative schemes, or statuary, or bridges, or buildings, the student will find a wealth of example which is astounding. There are by-ways, of course, which might be missed, lesser but still beautiful things which would risk being crowded out, and there is also Torcello. A few of these by-ways might be mentioned. Venice is full of interesting Renaissance treatments in many of its smaller churches. There are, for example, San Salvatore, which has a fine interior by Sansovino. It is perfectly lit by lanterns and by high clerestory windows. The nave compartments are domed and the piers are double, carrying arches to the front as well as to the aisles. A somewhat similar church is San Fantino, but the nave is vaulted with a dome at the crossing only. The choir is also domed and is as satisfactory as anything in Venice after Sta. Maria dei Miracoli. Both San Salvatore and San Fantino are well worth making careful surveys of. Mr. Bolton has recorded the main lines of the former. The wood roof of San Stefano is interesting, a triple cove, decorated in colour and with carved and painted tiebeams. Another good interior in Venice is S. Francesco della Vigna, and it has also a fine façade.

The great church of San Giovanni e Paolo, forming a picturesque group with the Colleoni Statue, is in Lombard Gothic, and has some really splendid early Renaissance wall tombs in the interior. San Georgio dei Greci has a good and rather severe baroque façade, with a dome like the Miracoli.

The churches of Venice are legion, and they are full of interesting pictures, or rather, masterpieces. It is exceedingly difficult for the student to concentrate in such a place; and, in fact, unless one definitely goes there with a set purpose the chances are that little will be done; but there is always the consolation that wonderful places like St. Mark's or S. Maria dei Miracoli, or the Loggietta by Sansovino, are full of such beautiful detail that a great deal of smaller work can be done with ease. If the student has a camera it is very valuable in a place like Venice, as there is so much that he wants some record of and that he cannot overtake. On some quiet morning he should take a sandolo from the Riva and get ferried across the lagoon to Torcello. The great lonely basilica, with its simple tower, grouping finely with the domed church of Sta. Fosca, is full of charm both inside and out. There is a quietness and repose about the interior, enhanced by the perfect lighting of the small clerestory windows, that is not easily forgotten, and the apse arrangements are unique.

Sta. Fosca has a beautiful interior which is absolutely in scale, and with most interesting vaulting and domical arrangements. The marble columns and Corinthianised Byzantine capitals are just as good as those of St. Mark's.

R.I.B.A. ELECTIONS, MARCH 3.

AT a business meeting of the Royal Institute of British Architects, held on March 3, the following new members were elected:—

FELLOWS.

A. S. G. Butler, London
B. Chaikin, Jerusalem.
J. B. F. Cowper, Hampstead.
S. J. Edwards, Colombo.
N. Jones, Southport.
H. L. Paterson, Sheffield.
W. T. Sadler, Streatham.

ASSOCIATES.

H. R. H. Bath, Nairobi.
G. A. Beech, Victoria.
D. Brooke, Barnes.
E. H. Button, Bristol.
I. M. Chambers, Roehampton.
L. M. Chitale, London.
J. A. Coia, Glasgow.
G. H. Crickmay, London.
J. S. Curwen, Kendal.
J. D. Ferguson, Cambuslang.
E. C. M. Fillmore, West Bromwich.
E. M. Fry, London.
J. D. Grant, Ipswich.
T. Greenfield, Midhurst.
Edith G. Harrison, London.
E. H. H. Higham, London.
H. Hirst, Liverpool.
C. H. Hutton, Rock Ferry.
C. G. C. Hyslop, Kingston-on-Thames.
F. W. Knewstubb, Penrith.
C. R. Knight, Liverpool.
A. F. Lawrie, Johannesburg.
S. T. Parkes, Melbourne.
A. H. Powell, Reading.
T. S. Sutherland, Aberdeen.
R. W. H. Vallis, Frome.

MEETINGS.

MONDAY, *March* 10.

Surveyors' Institution.—Mr. J. C. Spensley on "Economic Effects of the Housing Subsidy and the Rent Restriction Acts." At 12, Gt. George-street, S.W. 1. 8 p.m.

Architectural Association.—Mr. Goodhart Rendel on "Gothic Survival." At 34, Bedford-square, W.C. 1. 7 p.m.

WEDNESDAY, MARCH 12.

L.C.C. Central School of Arts and Crafts.—Sir Banister Fletcher on "Early Christian Architecture." At Southampton-row, W.C. 1. 6 p.m.

CORRESPONDENCE.

R.I.B.A. Defence League.

SIR,—At a recent committee meeting attention was called to a letter signed by Mr. Maurice E. Webb, in which he refers to registration.

We beg to enclose a copy of the circular letter signed by us and dated January 31, 1924; you will see that the only reference in it to registration is as follows:—

"Our Committee wonders what reason is to be given now for the admission of several hundred men without examination. Surely the promoters of this foolish scheme will not attempt again to throw dust in our eyes by saying, 'If you admit these men, then you will get registration,' or words to that effect, for our Parliamentary Agents have shown how ridiculous and misleading such an assumption may prove to be. If every architect in England belonged to the Institute, the great difficulty would still be before us, namely, how to make out what is known as a 'public case.' For example, a kindred society of another great profession wanted registration, but ultimately had to abandon the idea, not on account of any opposition from its members or from any rival society, but because the society in question could not make a 'public case.'"

Mr. Webb writes that our circular letter "indicates clearly that the policy of this League is now definitely anti-registrationist for reasons set out in the circular." This entirely misrepresents our views; but Mr. Webb gives us another opportunity to remind your readers that the R.I.B.A. Defence League has always been and is still in favour of registration. In our letter of January 31st we gave the principal reason why we consider it will be so hard to obtain, and we did so at greater length in our letter of January, 1922, when we printed *in extenso* the opinion of the Parliamentary Agents of the R.I.B.A.

Whatever views your readers may have in favour of or against unification, or amalgamation with any society or societies, we feel convinced that a very large majority of the members of the R.I.B.A. are satiated with these constant attempts to undermine the status of the Institute. And the usual result of the initiation of such schemes is to stir up strife and resentment, and create bad feeling at the R.I.B.A.

The Defence League was founded to protect the interests of those who have entered the Institute in accordance with our charters and by-laws and has no other object.

ALFRED W. S. CROSS,
Chairman.
SYDNEY PERKS,
Hon. Secretary.

Mural Decoration.

SIR,—The article in your last number on "County Hall Panels and Mural Art," by Mr. Reginald Hallward, expresses most ably the present situation in regard to mural decoration. The present, almost universal, system of educating artists as mere easel picture painters and then turning them on to wall decoration could only end disastrously. It certainly seems strange that with so much notable work done by past generations of artists, in this particular sphere, the essential principles which govern this greatly neglected branch of art are so little understood.

Would it not be wise in the case of pupils showing a natural aptitude for this branch of art (I have had such pupils) to direct them to study the work of such men as Bennozzo Gozzoli, Perugino, Botticelli, Ghirlandaijo, Michael Angelo, Titian, Tintoretto, and Puvis de Chavannes, and the fine old English examples of the late fifteenth-century Gothic decorative art found on the rood-screens at Ranworth, Barton Turf and Cawston, in Norfolk. These works show a true understanding of the essential qualities necessary for all art associated with architecture as decoration. Mr. Hallward puts the whole thing in a word when he says:—"Mural art will not be fostered in any such way, but in a spirit big enough to project through the mural form of painting themes which express the national life at its noblest and best." Even if we admit (as a well-known artist once said to me) that fifteenth-century decorative art was art in its infancy, it was a robust and healthy infancy and much to be preferred to many of the specimens of decorative art of to-day which might be described as art suffering from senile decay. Mere realism, anatomy and draughtsmanship will never give us great decorative art. Greatness in this department is never found without a fanciful idealism combined with a spiritual and intellectual perception of the abstract beauty which must underlie all combinations of the arts of architecture, sculpture and decorative painting. The preconceived idea is the curse of all art of to-day. As Mr. Hallward has so ably stated, the "subject and treatment must be inspired by the site and environment." Anyone who has worked direct on the wall will understand what this means. The whole conception seems to be a growth almost independent of the conscious working of the mind of the artist. Questions of composition, scale, balance and grouping are suggested naturally without any effect of posing and models. Think of what Titian would have made of such a subject as, say, "The Lord Mayor's Banquet"; or Bennozzo Gozzoli of a "Coronation Procession"; or Ghirlandaijo of the funeral procession of a great soldier, sailor or statesman; or Botticelli of a religious festival; or Michael Angelo of a great earthquake. There is great hope for the future if we only perceive and admit our errors.

WILLIAM DAVIDSON.

Edinburgh.

The R.I.B.A. and Education in India.

SIR,—I was glad to read in *The Builder* that the R.I.B.A. is holding an International Congress on Architectural Education during the summer while the British Empire Exhibition is in full swing. It is a very good idea indeed to exchange thoughts and ideals with the representatives of the allied societies, and to set some scheme for the proper education of young architects on sound lines. Not only will this idea help our brother architects, but also a very comprehensive exhibition of designs of the various schools arranged by the R.I.B.A. will show the intellectual methods of designing and practice of the varied cultures, and consequently I am quite sure the creative force of the International Congress will produce the best results.

From the public realisation of Indian art and architecture in Great Britain, France and America, it looks as if it is a very great problem and of utmost importance for the R.I.B.A. to consider the appropriate methods for education in India suitable to the economic conditions and the requirements of the country, and it is desirable to know how the R.I.B.A is going to solve this problem at the next congress.

India possesses some buildings which are included in the seven pearls of the world, and by this fact the people of Europe and America know India has produced some of the best buildings in past years. Its arts and crafts have attained the poetic height and appear absolutely perfect creations of the mind of men expressed in buildings. The ancient civilisation in culture attaining the most wonderful effect in material, the intellectual and creative force in master builders of the ancient India, show the production of most successful results. They solved the problem of construction in varied materials suitable to the country of their time, and the monuments still standing illustrate the ideals of the people and to what extent they were developed and cultivated. The architectural question then for India's intellectual and economic interests is so great that it cannot be regarded as a mere technical matter which can be decided at sight.

India being a vast country, having a population of about 330 millions, it is rather surprising there is only one architectural school. This school has a five-years' course after matriculation examination of the Indian universities, working only for about two hours every morning. This is obviously not enough time for education, especially in a subject like architecture; the students cannot compress the necessary study into this short period.

The main difficulty before the authorities concerned is to organise full time studies, and unless this is practicable the system of educational methods cannot be changed for the better. Again, the standard of education at the present time and the facilities to the students for freedom in thought as the most essential part of architecture is lower than in the architectural schools in Great Britain or any other country.

After taking the five years' training in the school, the students enter their professional career (they are always draughtsmen when starting their career), and under some rules only recently have they been qualified for municipal licences to practise independently. Architects have to design buildings in accord with their thoughts, ideals and traditions, and it is only architects who can do this creative work. But the fact is ignored, and, in spite of it, trained men in the status of draughtsmen are made to work under engineers, and, in consequence, they are unable to develop their ideals for solving the practical methods on which architecture is based, and thus improve the standard of design relating to conditions of the country as are the architects of the other countries. Young architects in India must be taught on sound foundations, and ought to be given opportunities to know their ancient buildings in India and the traditional methods and constructions to carry on research on these lines, and then to think out the methods to be adopted in practice. They should also be given opportunities to solve the question of domestic buildings on sound lines.

I feel that these questions ought inevitably to come before the Congress, and therefore I hope the R.I.B.A. will appoint a representative of India to bring forward the facts and present needs of education, and to discuss the question with a view to finding some method of improving methods in architectural education, and raising the status of the architectural schools to the same level as those of Great Britain, so that the influence of the R.I.B.A. qualification be felt in India as in the Dominions.

L. M. CHITALE.

Oxford-circus Improvement.

SIR,—In considering Sir A. Yarrow's proposed obstruction, it ought to be recalled that the report of the Royal Commission on London Traffic contained a similar suggestion, but at two different points, and those probably the most congested in the whole Metropolis. It proposed what might be termed a "hogsback" from the summit of Blackfriars Bridge over Queen Victoria-street crossing, and Ludgate-circus to Farringdon-street.

Many other recommendations by that most important body still stand to be considered by any new Government proposing to take action in traffic improvement. In fact, as proposed recently, the best course would be to reconstitute the Commission to reconsider its findings of twenty years ago, with the view of bringing them up to date, and also of formulating "the well-considered plan" it considered essential, in the light of the changes that have occurred since. It is only fair that it should be allowed to do so, the entire venue and the whole situation having radically altered. Besides, there is a mass of new data and suggestions *en gros* to be considered whilst powers have been obtained and others are sought for projects regarding which great difference of opinion exists.

Moreover, the community has a right to expect that when action is taken this very costly report (£80,000), now in danger of being ignored, which took two and a-half years to prepare, should be dealt with in a fair and exhaustive manner, as it would be were the Commission itself reconstructed with some additional powers.

"O. B. I. T."

HISTORICAL MONUMENTS IN ESSEX.*

THERE can be no subject of more general interest than that presented by the attractive volume before us. Since it is of the first importance that we should all have a general knowledge of the priceless works of art and utility that have been bequeathed to us by past generations, so it is desirable that this knowledge should be imparted in as succinct, clear, and pleasant a manner as possible. The productions of the Royal Commission on Historical Monuments go a long way to achieve that end. That England is rich in historical buildings is not too widely known, and it is a pleasant revelation that so great a wealth of architectural beauty is contained within about one quarter of the area of a single county. The volume, the fourth and concluding volume of Essex, contains, in addition to the inventory proper, a preface by the chairman of the Commission, Lord Crawford and Balcarres; a sectional report with a list of those monuments especially recommended for preservation; a general survey of the whole county under the headings of Prehistoric and Roman, Anglo-Saxon and Danish, and Architecture (comparative review); a section survey; an armorial of the county; plates of illustrations of mouldings and masons' marks; a glossary of architectural terms; an index to all four volumes; and a map of the section. The work is copiously illustrated throughout by photographs, plans, sections and diagrams.

The volume contains an inventory of the monuments in 104 parishes in the south-east of Essex, or a district lying between the Blackwater and the Thames, and extending westwards from the sea to the river Beam and the outskirts of Romford. Within this area 658 monuments have been examined and reported on as to their date, materials of construction, general character, and their present condition, and the Commissioners recommend 43 of them as "especially worthy of preservation."

A building of particular interest described in the inventory is the chapel of St. Peter-on-the-Wall in the parish of Bradwell-juxta-Mare at the extreme north-east of the section. This is built across the foundations of the wall of a Roman Fort which is also described and illustrated. "The chapel," says the report, "is almost certainly that built by Bishop Cedd in c. 654 at Ithancester. It stands astride the former W. wall of the Roman station and originally consisted of an apse, nave, and W. porch, and possibly 'porticus' on the N. and S. A tower was subsequently added above the porch. It was a chapel-of-ease to Bradwell in the Middle Ages, but was eventually desecrated and used as a barn; the apse and tower were destroyed. It has recently been restored and is now again used as a chapel. The building is of extreme interest as one of the earliest surviving churches in England." This church is built almost entirely of reused Roman material, including ashlar, brick, and nodules of hardened clay, and has the lofty character typical of the period. There are indications in the masonry of the east wall that the original communication between the nave and apse was by three arches, as at Reculver. All the windows are placed at a great height above the floor, and retain much of their original work. The Commission describes the condition of the building as "Good." Another building of exceptional interest is the tower of the church at Corringham, dating from the latter part of the eleventh century. This is a bold square structure without buttresses, and consists of a lofty lower stage, quite plain except for small loop lights, and two low upper stages relieved by blind arcades and small belfry windows. It has a pyramidal roof.

Since the absence of freestone within the county itself rendered stone a relatively expensive material, there has been always in Essex an extensive use of brick and timber. The result is that the county contains some very charming buildings constructed of these materials. Little Warley Hall, in the parish of Little Warley, is an agreeable example of brickwork of the early part of the sixteenth century, with a corbie-stepped gable and a projecting chimney decorated with diaper work. Of the wealth of timber houses in this part of the county described and illustrated Great Sir Hughes, in the parish of Great Baddow, is a conspicuous example. It was built in the first part of the seventeenth century in the early Renaissance manner. The county generally is rich in examples of good timber belfries, and a large number of them is contained in the south-east division. That at Stock, rising from the centre of a timber narthex, is a fine example. A photograph of the Renaissance gateway of Tilbury Fort, built about 1682, is chosen for the frontispiece to the volume. This is a stone structure of two stages, the lower of the Ionic Order with two columns on either side of the gateway, and the upper of the Corinthian Order surmounted by a segmental pediment containing the royal Stuart arms and flanked by carvings of war trophies.

In the inventory of the several parishes the churches with their fittings, the secular buildings, and the earthworks are examined in succession. Most of the churches of prominent importance are illustrated by hatched plans, and all the ancient churches are accompanied with key-plans drawn to a uniform scale. This arrangement, while it materially increases the value of the work as a record, greatly assists the reader's comprehension of the text. It is obviously impossible to treat the secular buildings, even of the larger houses, on so liberal a scale. During the course of their existence the advance of civilisation and the change of customs and aspirations of their owners have resulted in additions, alterations and even destruction of parts of them to an extent that in some cases the original disposition is unrecognisable. We understand that for this reason the few plans of houses given in this volume are not lettered as to disposition of parts. Where this can be done, however, it would greatly assist the comprehension of the text, which we find in the long descriptions none too lucid. We venture to suggest that a greater freedom in the accounts of the larger houses would give a more definite conception of them. The result would be a more useful and valuable inventory.

The photographic illustrations are profuse throughout the volume and attain a high order of merit. Many of these are full page or half-page illustrations, while others are grouped together on plates and arranged in series illustrative of church towers, timber belfries, timber houses, &c., or of church furniture, painted glass, church plate, and similar details. Two pages of mouldings with their dates and the names of the churches in which they are to be found are appended. Another welcome item is the inclusion in this volume of an armorial of the county families of Essex before 1550.

The general survey of the whole county, in which each especial subject is written by an eminent expert, is a most valuable part of the report. Particularly interesting to architects is the section under the sub-heading, "Architecture: Comparative Review." The results of the investigation under this section are here summarised and the characteristics of construction and embellishment distinguishing the various periods described. Various types found throughout the county are analysed and compared with each other and with examples existing elsewhere. Note is also made of the materials and other influences which directed the course of architectural development in the county.

Having regard to the value of the work of the Commission, a value as much practical as historical, it is to be regretted that the Treasury refuses to entertain proposals for its adequate development or to provide sufficient means for its operations, for the present, beyond the counties of London and Middlesex. These volumes provide, in an attractive form, that intimate and intelligent knowledge of England's priceless possessions which cannot but result in an incitement to the development of art on national lines, and *pari passu* to an encouragement of industry. We trust, therefore, that the Treasury will see its way to revise its policy in this respect. The value of these volumes to the architectural profession is considerable. It is not without reason that architecture has developed on national and even on local lines. The influences of climate and available materials and of customs and temperament have impressed themselves upon our predecessors. Their works are often the result of improvements step by step as they have developed under the conditions imposed upon them. Therefore, all who are responsible for the restoration of old or the erection of new buildings in a particular neighbourhood should familiarise themselves with local traditions, and to this end we know of no better complement to personal acquaintance with the locality than one of these volumes.

[The illustrations of ancient buildings in Essex in this issue are reproduced from this book by permission of H.M. Stationery Office.]

Chapel of St. Peter-on-the-Wall (c. 654), Bradwell-juxta-Mare.

* An Inventory of the Historical Monuments in Essex. (London: H.M. Stationery Office. Price 25s.)

THE LIGHTING OF PICTURE GALLERIES.

By G. MAXWELL AYLWIN.

So much has been written about the correct lighting of picture galleries that very little can be added to the devoted thought that has been expended upon this very interesting and important subject. The excuse for again touching upon it at all must be that the prominence recently given to this branch of architectural design may make it desirable to give access, for the benefit of those interested, to a concise summary of some of the most important results of others' study. Such an authority as Mr. Hurst Seager, F.R.I.B.A., leaves little for the casual student to add, but rather provides enough, and still more from which to build. His exhaustive works upon the subject of "Top-side Lighting," for which system he makes out a convincing case, are such that the student thereof can hardly fail to be at any rate much influenced by his views.

The design of art galleries depends upon many factors of which that of correct lighting is only one, though one of vital importance. The particular requirements of each individual problem, easy circulation on plan, dignified expression in elevation, the effect of a quiet setting in interior treatment, and the eternal bugbear of cost, must each and all make an imprint upon the complete conception. Yet a little reflection must show that correct lighting, even when considered as a separate factor, is also dependent upon each of the others, and no other factor can be deemed to be adequately satisfied unless contributing to the all important lighting. For instance, the most correct section of a single gallery may have its benefits entirely neutralised by the unwise grouping of surrounding buildings. Actually it has been found that the converse also holds good, viz., that an incorrect section may, on occasion, be corrected by the accident of surroundings. Mr. Seager particularly refers to the Soane Museum, where, in one instance, a room top-lit by a pitch-roof skylight becomes a perfectly lighted gallery owing to the fact that one slope receives the direct light from the sky while the other is muffled by the reflected light from a high dull brick wall. The spectator stands in shade, and the whole effect is that of a perfectly lighted gallery, the principal picture (glazed) being entirely free from reflections and seen to perfect advantage, as Londoners will probably remember, though perhaps without considering the cause.

The picture lover is well acquainted with the difficulties and strain experienced during a protracted visit to our best known art galleries. Some pictures are almost entirely obliterated, while others—and the majority—are much confused. Just one here and there is seen to perfect advantage as the result of a happy sequence of accidents. It is, of course, the glazed pictures, and, of these, those that have the largest and darkest grounds, that suffer the most. Such pictures become mirrors eager to catch and reflect all the light they can reach. They must, therefore, be given a peculiar function, in that they must be themselves well fed with light, which must, however, be reflected out of the range of vision of the spectator as far as possible. Such reflections as are inevitable must be so subdued in tone as to subordinate themselves to the picture beneath the glass. The actual original source of light will, of course, throw the most brilliant, and consequently most disturbing, reflection in the glass of the picture. It is a comparatively simple matter to design the gallery so that the source of light is reflected out of harm's way, and a very elementary knowledge of the laws of reflection will suffice.

From an early date in the history of art galleries this was a primary consideration which was well recognised, and few of our art galleries fail in this respect. The National Portrait Gallery affords one or two instances where this is not the case and with disastrous results. Even where this elementary law is maintained it will be found that in most picture galleries the majority of the pictures are full of reflections—perhaps most annoying of all that of the spectator himself dominating whatever picture he is most anxious to appreciate. The brightest reflections are those of the most brightly illuminated objects.

The old top-lighted system naturally illuminates the whole room first and the pictures next, so that the reflections overpower the picture, and the system has therefore been condemned by many authorities, of whom Mr. Seager is the best known. The late Mr. C. C. Brewer was equally emphatic upon the subject in his report upon the American Museum Buildings in 1913. Mr. Benjamin Gilman also rejected the top-lighted system, preferring attic lighting, *i.e*, windows in the side walls close to the ceiling.

Various modifications of the top lighting system have been tried with good or bad effect. In some cases the central portion of the flat top light has been blanked with the object of shading the spectator and of concentrating the light near the pictures. The result has been in effect the direct opposite of the intention, as the near spectator receives a concentrated illumination which serves merely to accentuate his reflection. Another method was to form a top light of three surfaces, in section like a truncated triangle, the flat central portion being blanked, the side slopes only being glazed to throw a direct light on the picture. Some such system has been adopted at the Wallace collection, where the result is hardly a success. The pictures are certainly well illuminated, but the sloping light above the picture tends to over-illuminate the front of the spectator, though proportionately less than in the case of the flat top light near the walls. Yet another improved method is to be found in the later rooms at the National Gallery, where the roof, designed much as in the last described method, springs not direct from the side walls but from deep coves, which arrangement brings the springing some feet out in advance of the walls. The result is not completely successful, as the light upon the pictures strikes also the back of the spectator, defining an illuminated halo round his dark form with confusing effect. It is, however, impossible to pass from the old full-blooded top-lighted galleries into these later and improved ones without becoming conscious of a relatively restful effect. There can be little doubt that a distinct advance was made when this system was adopted, after much scientific research under the direction of the Office of Works.

To summarise the requirements of a well-lighted gallery, from observations which will be apparent to every student of perception, we find:—

(1) That the source of light must be reflected out of the range of vision of the spectator.

(2) That the picture must receive ample direct light.

(3) That the spectator must stand in a relatively subdued light.

(4) That the spectator must not intercept any light passing from the source towards the picture.

This brings us to the subject of the top-side light system as advocated by Mr. Seager, and which appears to satisfy all the above requirements. In this system the spectator passes down a central corridor which receives no direct light and is covered with a flat ceiling. From this are opened up a series of side bays roofed with pitch roofs parallel with the central corridor, the slope next the corridor being glazed to throw a direct light on the back wall of the bay. The pictures are hung on the back walls, and, to a limited extent, upon the side divisional screens. (Mr. Seager advises within six or seven feet from the inner edge.) Seats are provided just inside the bays off the corridor, but not sufficiently forward to catch the light from above. The result is a good direct light on the picture with the source hidden and *in front* of the spectator.

The Ryks Museum at Amsterdam seems to indicate an early attempt in this direction. The central corridor is vaulted, and the opening to the bays are heavily curtained, but injudiciously lighted from the top, and reflections are not eliminated. The effect in the corridor is also very gloomy and unsatisfactory.

Probably the most complete example of an existing art gallery on the top-side light system is the comparatively recent Sargeant Art Gallery at Wanganui, New Zealand, in the competition for which Mr. Seager himself acted as assessor. The assessor's report is published and on sale to the public, and is a very instructive document to read. It is of interest to see that in the assessment of the preliminary competition in the Wanganui competition the assessor awards only 30 marks out of a possible 168 for lighting. This seems to suggest that, in any similar competition, while the lighting of the premiated designs might be considered unsatisfactory, the assessor might feel justified by the relative excellence in other directions in so awarding the premiums as apparently to ignore the lighting arrangements. Yet, as has been seen, the lighting factor is indivisibly bound up in many others. The top-side light

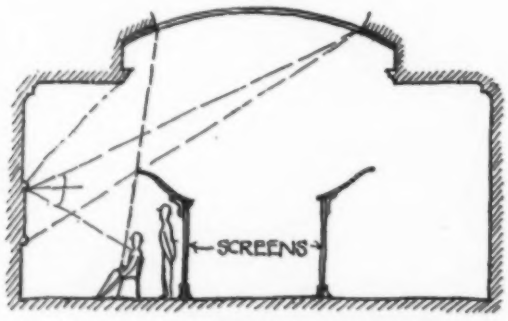


FIG. 1.

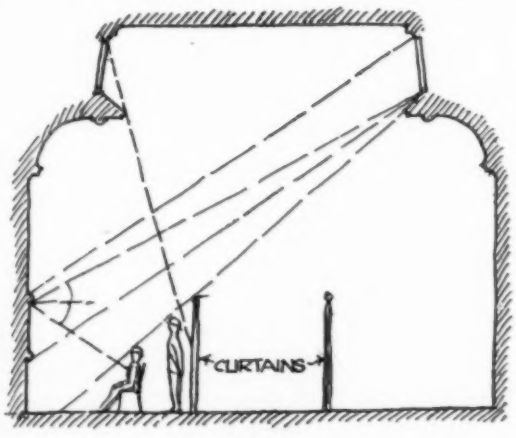


FIG. 2.

Lighting of Picture Galleries.

method to some extent imposes a certain type of plan, and in awarding marks for a plan of that type an assessor is also, in a way, giving votes for a particular system of lighting. The same applies to the interior treatment.

It is well to remember that the study of one particular branch of design is apt to develop a bias and to exaggerate in the mind of the student the relative importance of the branch in question. It might be urged, with some justice, that the top-side lighting method does tend to eliminate an air of architectural spaciousness, and that it does tend to add to first cost by multiplying internal supports and eliminating large open spaces. These considerations must weigh very heavily in the mind of an assessor if he is of opinion that correct lighting can be obtained in any other way.

One possible method of modifying top light may be suggested. Light, low screens, designed as furnishings in some dull-toned material, might be arranged in front of the pictures at such a distance as to allow of seats between screen and picture, at the correct viewing distance, and with a narrow walking space behind the seats, and forming a continuous corridor down the centre of the gallery. The top of the screens would be designed to overhang towards the pictures, somewhat after the arrangement of a gantry-fan, in order to throw the spectator into shadow. The screens would be frequently broken to allow of ready access between the corridor and the viewing space, and where such gaps occurred a judicious choice of pictures to hang would be necessary, such as the unglazed, and those of a light ground and the least susceptible to reflection. Such an arrangement would seem to meet most of the requirements of correct lighting, while maintaining the air of spaciousness in the gallery, and the screened-off viewing-space would induce that intimate atmosphere which seems desirable for the happy enjoyment of good art. The reflections from the brightly illuminated wall opposite would be entirely intercepted, and the spectator himself would be standing in the most subdued shade, and it is believed that the result would be entirely satisfactory. The suggestion is roughly illustrated by the sketch section (fig. 1). Similar steps might with advantage be taken to improve the lighting effects in such places as the later rooms at the National Gallery before referred to. In this case the screens would need no "fan" at the top, as the cove of the ceiling would (or could be made to) shield the viewing space from top light. They might well take the form of a series of sombre curtains, the neutral folds of which should form an admirable medium for inducing shade (fig. 2). Mr. Seager himself hints at some such subterfuge for correcting the gallery at the Tate, in which the largest Watts picture presents such a problem to those who would study it as a whole, rather than a square foot at a time. He suggests the hanging of a curtain down the centre of the room to eradicate the impossible reflections.

Means such as these seem to be applicable to almost any existing or intended systems of top-lighting, except where there are flat top-lights near the wall. Mr. Seager suggests that existing top-lighted galleries might be rendered tolerable by shutting off the light one side at a time by means of opaque blinds, thus alternately displaying one side or the other in correct top-side light. This appears to be an admirable half-measure, though it does not eliminate the "halo" round the spectator, and it has the disadvantage that visitors from a distance may be disappointed to find that the particular picture for which they came specially to see is not on view, as those on the darkened sides would be quite invisible owing to reflections worse than the normal.

Beyond these first considerations there are others of importance in designing the best setting for the display of fine pictures. Mr. Seager refers to most of these in his papers. It is essential to avoid highly coloured walls which tend to cast their tones upon the whole of the pictures displayed and entirely alter the colour values. A darkish neutral tint would seem the wisest choice, and with a rough stippled surface. The floor covering, if of a light reflecting nature, throws a most irritating reflection upon the lower part of pictures on the line. Light polished oak is particularly bad in this respect. Some darkish matt surface, such as dull black and grey rubber paving, should do well, and would also serve to maintain silence in the gallery.

Finally, a perfectly designed gallery should be arranged so that no picture is exposed opposite the doorway leading to another well-lighted gallery, or the clear-cut reflection of the latter will be obtrusively displayed in the glass of such an unfortunate picture, as to render it quite indiscernible. A little judicious screening will correct such an arrangement.

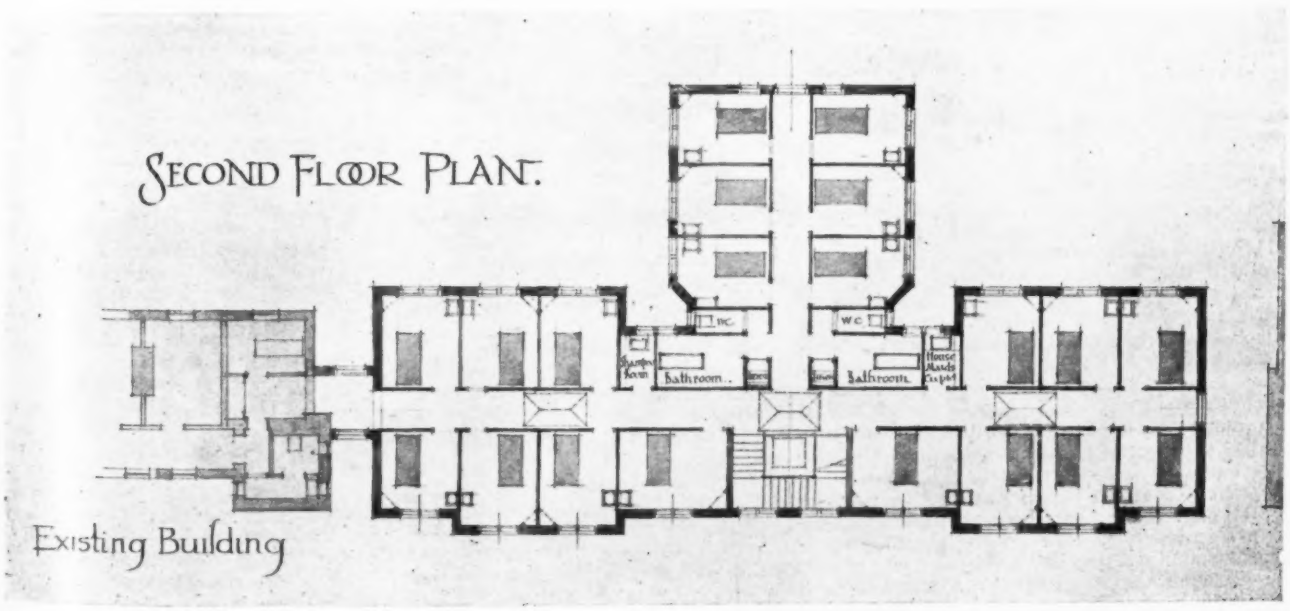
As has been previously pointed out, these notes are mainly intended as a resumé of the results of others' faithful study and research, supplemented by a little personal observation and thought. They seem to indicate that the top-side light system, as advocated by Mr. Seager, is the ideal at which to aim in the setting for pictures, and that the majority of our galleries at present violate nearly all the first principles of correct lighting. They do not, perhaps, present a complete answer to those who feel the loss of a certain amount of architectural effect, or who are a little nervous of mounting cost. Some will also say that a gallery so designed to house adequately a collection of pictures may soon become overcrowded, tempting the authorities to utilise all the wall space of the side-screens to the bays, thus leading the public right into the bays, to the confusion of all original intentions.

In conclusion, a final general appreciation of those members of the profession who, like Mr. Seager, have devoted their life efforts to the solution of scientific problems in which the rank and file find themselves sadly out of their depth if unaided. We are a little apt to look askance at science as a rather cold companion, but we greet her thankfully after academism has failed us, and the more thankfully when we find her within the sympathetic bounds of the profession.

ROME SCHOLARSHIP IN ARCHITECTURE.

IN reference to the preliminary competition for this scholarship, a critique of which we gave in the last issue of *The Builder*, the following is a complete list of the students who competed. Those starred were the selected for the final competition. It will be noticed that seven of the successful students are from Liverpool University,

*Charles T. Bloodworth (University of Liverpool).
Richard W. Briggs (University of Manchester).
Leo Durnin (School of Architecture, Aberdeen).
A. Muriel Hargroves (University of London).
Frances T. Silcock (University of Liverpool).
Alexander M. Stewart (School of Architecture, Aberdeen).
*Donald Brooke (University of Liverpool).
*D. L. Bridgwater (University of Liverpool).
*Francis X. Velarde (University of Liverpool).
*John H. L. Owen (University of Liverpool).
*Hubert S. Silcock (University of Liverpool).
*Marshall A. Sisson (University of London).
*Herbert Thearle (University of Liverpool).
Leonard C. Howitt (University of Liverpool).
*Elsie Rogers (University of Manchester).
Fred E. Towndrow (University of London).



Additional Sleeping Accommodation at St. Marylebone Hospital.

MESSRS. CONSTANTINE & VERNON, F. & A.R.I.B.A., Architects. *See p.* 377.)

THE SHEFFIELD SOCIETY OF ARCHITECTS AND SURVEYORS.

THE GUILDHALL, LONDON.

On February 21 Mr. Sydney Perks lectured before this Society on "The Guildhall, London." In the course of his remarks he said it would be no idle boast to claim that the Guildhall was a unique building, for although it was formerly the scene of historical events of greater importance than to-day, it was still the centre of great civic movements, and its usefulness had increased in many ways. It might be said that Westminster Hall had a history to rival it, but Westminster had lost even its courts of law, and lived almost as a monument of the past; whereas the work and importance of the Guildhall increased from day to day. Little was known of any Guildhall erected before the present building; there was a previous structure apparently with a frontage to Aldermanbury, and the lecturer had heard it suggested that the west portion of the existing crypt was part of that Guildhall. Maitland, in his book of "The History of London," wrote: "The Mayor and Court of Aldermen considering the many inconveniences arising from, and great obstructions given to, the public business of the City, which daily increased with inhabitants, occasioned by the want of room in that despicable Cottage, the Guildhall in Aldermanbury, set about erecting the present Guildhall, which is a spacious structure, well accommodated for the transacting of all Publick Affairs belonging to the City." This extract was certainly in keeping with the idea that the old Guildhall had a frontage in Aldermanbury, and that the present building was erected independent of the old structure. The old views of the exterior showed that the appearance was roughly similar to its appearance to-day. After the Great Fire Wren added a story and provided the hall with a flat ceiling, and there were many views, both of the interior and exterior, showing the appearance of the building until the present open roof was built by Sir Horace Jones in 1864. He followed, as far as possible, old traditions, but in place of two small ventilators he fixed one large fleche. Although this was very effective from a distance, it was open to criticism in that it has the effect of somewhat dwarfing the appearance of the front from the Guildhall Yard.

With regard to the crypt, the eastern half, by far the most elaborate portion, varied very little from what it was nearly 500 years ago. The crypt had quite recently been restored; until then the walls and vaulting were covered with dirt and grease, the shafts supporting the vaulting were quite black, and it was only after the removal of the grease and dirt that the colour of the blue Purbeck stone shafts could be seen. This eastern crypt was more expensively constructed than the western portion; it was probably used for certain meetings, and its importance was emphasised by the fine entrance, which was quite as elaborate as the fifteenth-century porch. It was often suggested that the cross wall, which divided the crypt in two parts, was not built at the same time as the vaulting constructed in one of the two halves. This had been used as an argument by those who had advocated the theory that a part of the crypt formerly belonged to a previous building. The western half of the crypt was supposed to have collapsed during the Great Fire, and Wren was credited with the restoration. This theory was no doubt correct. The architect, whoever he was, proceeded to rebuild the vaulting necessary to support the floor of the hall. He did it in the quickest way possible; he did not replace the old stone vaulting, but simply built a brick wall at each end of the space to be covered, and just inside the old stone walls, one being the cross wall and the other the west external wall, and in doing so he built up all the old stone responds, and they had been hidden from 1666 until a few weeks ago. Wren built a series of brick arches, similar to a range of railway arches. He filled up the haunches and replaced the floor. The workmen filled in with any stone or brick debris handy, and hundreds of beautiful Gothic fragments existed to-day in these brick walls. While removing the brickwork to uncover the Gothic work a very large number of the fragments had been carefully removed and labelled, and were ready for depositing in the museum. Of course it was a great pity the Gothic work was bricked up, but in a certain sense it was to their advantage to-day now that these links with the past had been brought to light, for the bricking-up process had preserved the stone and also the ironwork of the windows; the work was now exposed after a lapse of 240 years.

With regard to the western half of the crypt; from the time of the Great Fire onwards this portion of the building had not been treated with the kindness it had a right to expect. It was always evident, from the responds along the side wall, that this portion of the crypt was vaulted. There was a very interesting staircase from the crypt to the side of the porch, which was almost entire. The entrance at the crypt level still had stout hooks, and the ceiling was simply vaulted by stones leaning against one another; a straight joint running from end to end. The whole of the western half of the crypt was constructed in a much less expensive manner than the eastern half. The windows had simpler heads, and were not glazed—glass was a luxury in those days; the piers of the vaulting were in ordinary stone, and not Purbeck, as in the eastern half, and there were no caps. A possible reason for the difference was that the eastern half was constructed for ceremonial purposes, and the western half for muniment purposes or domestic work. This might or might not be so, but the lecturer advanced the theory as a practical solution of a difficulty. Later on the western end of the crypt was used for stables, for they read in 1683 that two Aldermen were requested to report upon the "mischiefs arising from the keeping of a stable and a coach-house under the Guildhall." The vaulting in the western half of the crypt was not planned conveniently for the main shafts above; in other words, the responds for the vaulting were not under the piers in the hall, but along each side wall there were other responds which were immediately under the piers of the great hall. It had been suggested that this part of the crypt, being a portion of an earlier building, was retained when the great hall was erected; consequently it was necessary to add responds to support the piers above, cutting through the vaulting of an earlier date. That theory was, he thought, incorrect. It was quite clear that the wall rib of the vaulting and a portion of the additional pier adjoining had been cut out of one stone; in fact, the vaulting and all responds were built at the same time.

The lecturer then dealt with what could be seen to-day. The east end and two return sides on the hustings were pannelled in oak. This panelling was copied from a screen in Newark. Church, and he thought it a great mistake to destroy Montague's design in stone and erect a copy of work which, although excellent, was erected under entirely different conditions. Again, the proportions of the panels, &c., had been altered to make it fit in, and the effect was much inferior to the original screen at Newark, The woodwork had a heavy projecting canopy, and this was immediately under the stone canopy. The result was not only did the wood canopy prevent anyone near the east end from seeing the stonework above, but they got two heavy horizontal lines immediately under the window, which had the unpleasant effect of dwarfing the end of the hall. It was apparent to the most casual observer that the woodwork formed no part of the original design, for they saw one canopy immediately under another, a senseless arrangement very detrimental to the dignity of the hall. At present the space at the back of the panelling was a receptacle for an enormous amount of dirt and dust, which could not be cleared away without taking down the screen. Last autumn the lecturer had a small portion of the panelling removed and some hangings submitted to members of the City Lands Committee, and the result was favourably received. The work of restoring the porch to the Guildhall was now well in hand. The original porch, known as "The Guildhall Gate," was erected in 1425, and was very different from what they understood as an ordinary porch, for it was the full width of the Guildhall yard, about 63 ft. wide; it had two doorways in it, and was in part certainly three stories high. The original porch, with Wren's alterations, was pulled down in 1788, a fact which was ever to be regretted.

Until recently almost the entire wall surface of the Guildhall was covered with a preparation of cement about one-sixteenth of an inch thick. This had been painted and distempered, with the result that the sharpness of the mouldings had disappeared, and it was very difficult to distinguish between the original Gothic and the imitation work which had been carried out from time to time. This plaster and paint work was said to have been started in Wren's time, the object being to paint the new stone used in restoration work after the Fire, and also the stone blackened by the flames, so that the whole should have what was considered a pleasing and uniform appearance.

Considerable interest was taken recently in the discovery of the one and only original and complete window in the great hall. It had been stated that the discovery was accidental, but there was nothing in the slightest degree accidental about it. The hall had just been cleaned, and it was possible to distinguish between old stone, new stone and cement with the greatest ease. The window in question was next to a bay, which had a blind arcade into which a bronze memorial had been fitted. The bay, at the back of which existed the window, presented an almost identical appearance; the centre portion was divided into three parts, but there was this difference, the mullions of the bay in front of the old window were of cement and those of the bay containing the statuary were of stone. With regard to the south window this had received further attention, and the brick wall on the outer side had been removed.

Cut-Throat Alley. — There was formerly a footway from the Guildhall-yard to Basinghall-street. In the fifteenth century the entrance was through the smaller gateway of the south front. Maitland states there were steps up from the alley into Guildhall-yard. It was clear that must have been so when they compared the level of the crypt doorway with the yard; the old views of the front showed one step up to the end of the porch, which was the same to-day as it was when first built, and the threshold of the crypt doorway also existed now. Cut-Throat-alley, no doubt, entered Basinghall-street through one of the footways shown on the old plans. As time went on it seemed that light was not considered of so much importance in the crypt, and the steps were found inconvenient. The Guildhall-yard to-day was 5 ft. above the level of the roadway in Basinghall-street, the descent of the steps was required to form a sinking in the ground, or continuous area to allow good light in the crypt. The necessity for ample light was also shown by the sloping of the soffits of the window recesses on the inner side of the wall of the crypt. It was clear that the descent of about sixteen steps down from the Guildhall-yard necessitated a rise of about 3 ft., or six steps, to Basinghall-street. Traffic, of course, increased, and no doubt the importance of the crypt decreased, for they knew that additional buildings were constructed. The result was what one might expect, the level of Cut-Throat-alley was raised and the sunk portion was filled in.

In conclusion, the lecturer stated the members of the Corporation took the greatest interest in the building, and in the opening up of old portions. The Committee dealing with the structure was known as the City Lands Committee, and was the premier committee of the Corporation.

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ILLUSTRATIONS.

Marylebone Hospital, Nurses' Home.

The drawings illustrated show an extension of the existing Nurses' Home at this Hospital, and the scheme was accepted in a limited competition.

In order that the building externally should conform as far as possible with the existing buildings, it will be faced in stock bricks with stone dressings. The windows will be in wood frames with iron casements. The building is designed on three floors and economy in design was the first consideration. As much natural light as possible has been introduced into the staircase and corridors.

Internally, the building will be finished in a simple manner, the floors covered with jointless flooring, walls plastered and distempered. In order to eliminate noise, the corridors will be covered with a rubber carpet. The staircase will be constructed in oak to give a more home-like effect than is obtained in a concrete or stone staircase.

The building will be constructed without internal structural walls, so as to avoid complications should it be desirable to use it for other purposes. The whole of the internal joinery is in pine. The corridors will be heated by radiators with low pressure hot water. Constant hot water will be provided to the bath-rooms and shampoo rooms on all floors.

The contract for the work has not yet been placed, but the estimated cost is approximately £12,800.

The architects are Messrs. H. Courtenay Constantine, F.R.I.B.A., and Austin Vernon, A.R.I.B.A., of 82, Mortimer-street, London, W.1.

Messrs. Woolworth's New Premises, Oxford-street, W.

This new block of buildings is now in course of erection. Messrs. Woolworth's are carrying out their own building operations under the superintendence of their architect, Mr. Wm. Priddle. The front is of white glazed terra-cotta, supplied by the Shaw Glazed Brick Co., Darwin; and the steel work by Messrs. Banister Walton & Co., of Manchester.

Wandsworth Town Hall—Proposed New Buildings.

The present Town Hall is situate in High-street, Wandsworth, and in 1920 this road was widened considerably, the front of the Town Hall removed, the size of the Hall curtailed, and a temporary front erected to the new line of road.

The Wandsworth Borough Council owns land adjoining the present Town Hall on the east side, and it is upon this land that the new Town Hall is to be erected. It is proposed to remodel the old hall and adapt it so that if required it may be used *en suite* with the new hall by means of connecting lobbies. The temporary front of the old hall will be taken down and the design shown on the accompanying sketch is the proposed elevation combining the new front of the two halls. It will be a steel-framed building encased in brickwork and the elevations will be of brick and stonework, with metal casements to all windows.

The ground floor of the present building will consist of club rooms and small halls, with a large hall to accommodate about 420 persons, on the first floor. The new building will include municipal offices on the ground floor and a large hall to accommodate about 800 persons on the first floor. Each hall will have a stage and the usual appurtenances.

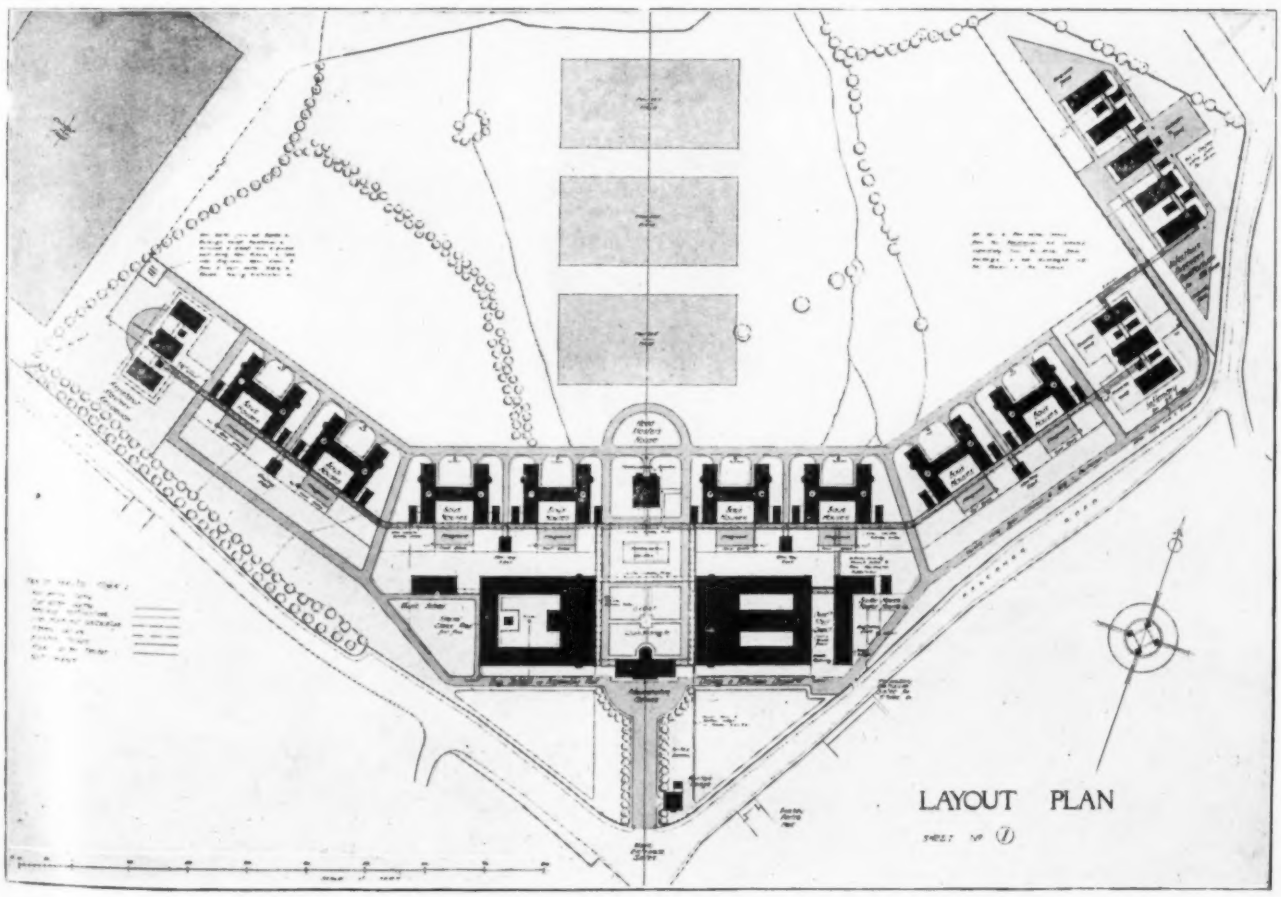
The interior decoration of the halls will be a high oak panelled dado, plastered panelled walls, and plastered panelled elliptical ceiling.

The designs are by Mr. Ernest J. Elford, the Borough Engineer.

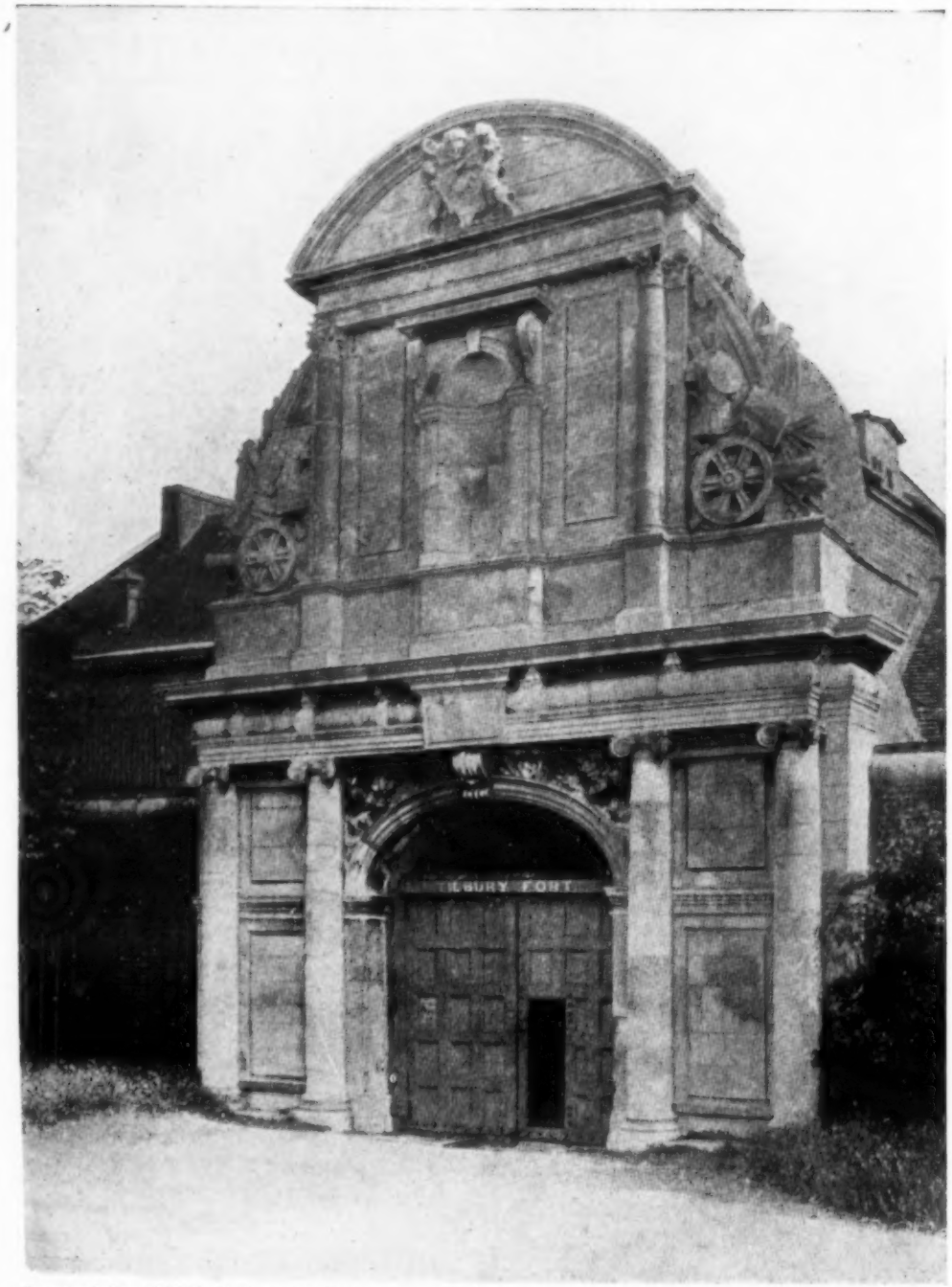
Royal Masonic Institution Junior School for Boys.

We give this week one of the designs submitted in this competition, by Messrs. W. & T. R. Milburn, FF.R.I.B.A. The block plan shows the buildings have been planned about a main axis, which bisects the angle formed at the junction of London and Falconer-roads. The great quadrangle forms the central feature of the scheme with the big school, dining hall, administrative offices and headmaster's house grouped round it. The estimated cost was £239,653.

The design placed first, by Messrs. Davis & Emanuel and Henry C. Smart was given in our issue for February 22, and part of the design submitted by Messrs. Gotch & Saunders in our last issue.



Royal Masonic Institution School for Boys, Bushey, Competition.
Design submitted by MESSRS. W. & T. R. MILBURN, FF.R.I.B.A.



By permission of H.M. Stationery Office.

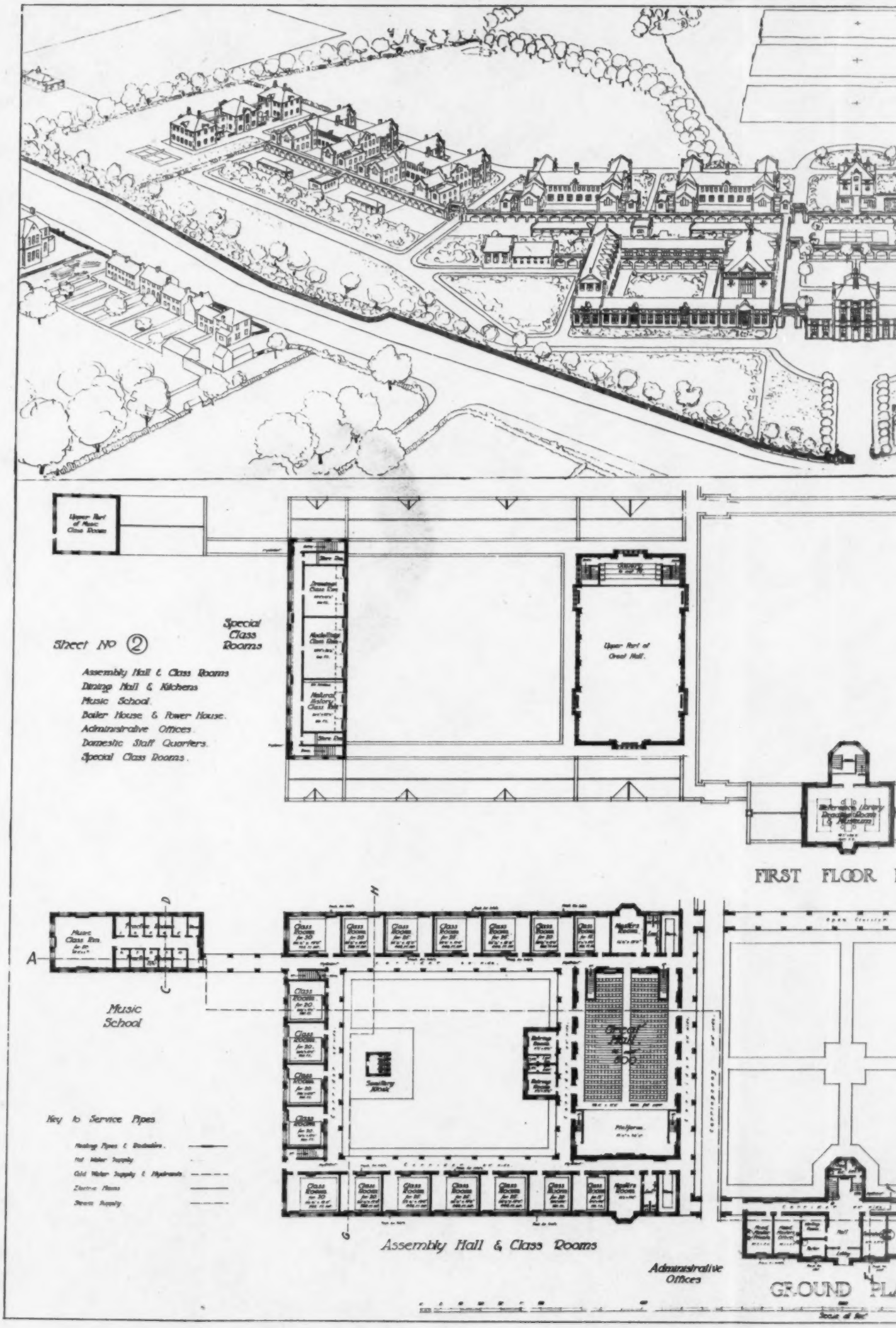
TILBURY FORT AND GATEHOUSE (*c.* 1682).

FIFTEENTH-CENTURY BELFRY AT ALL SAINTS', STOCK.

Historical Monuments in Essex. (*See p.* 373.)

New Premises for Messrs. Woolworth, Oxford Street, W.

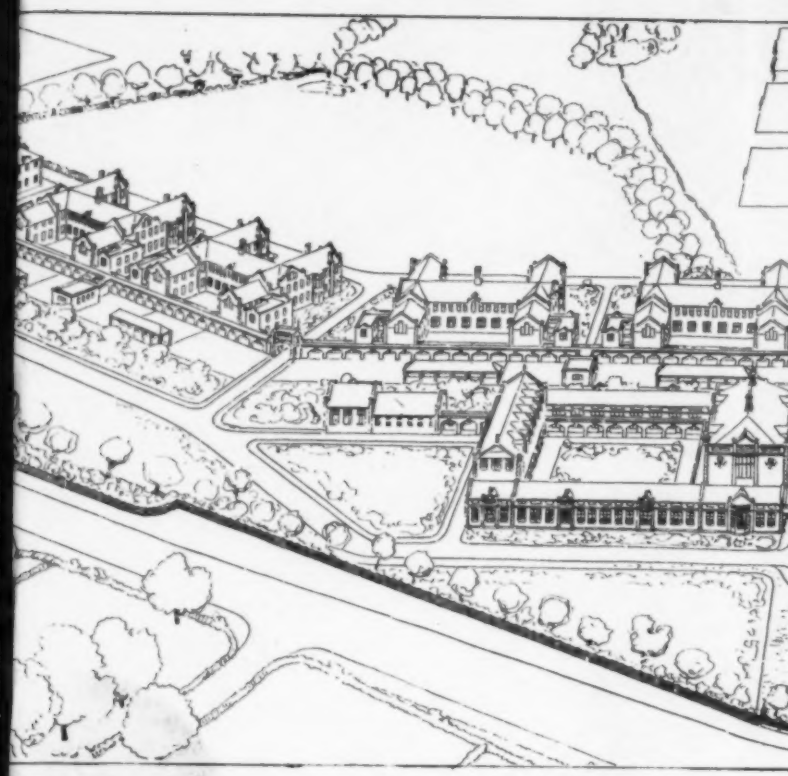
MR. WM. PRIDDLE, Architect,

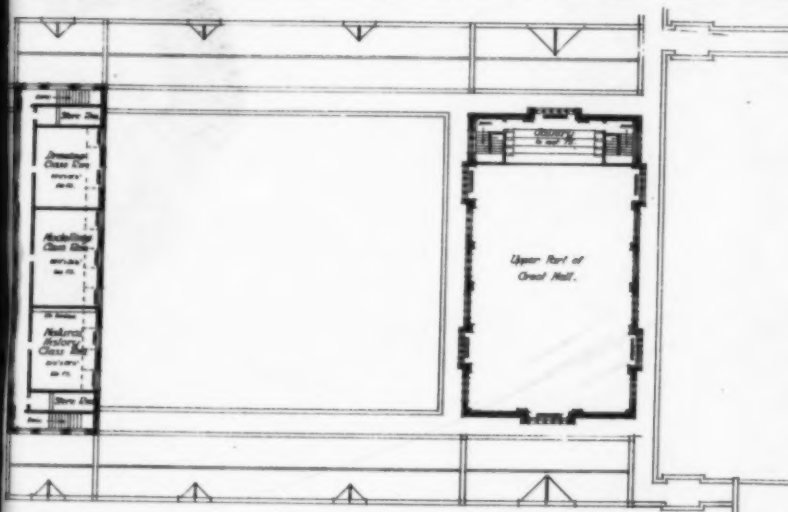


ROYAL MASONIC INSTITUTION FOR BOYS: PRO

DESIGN BY MESSRS. W. & T. R. MI

TH





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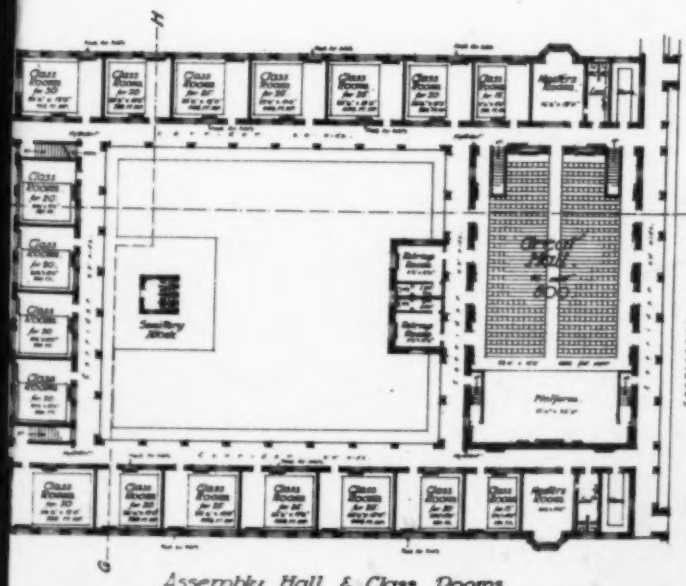


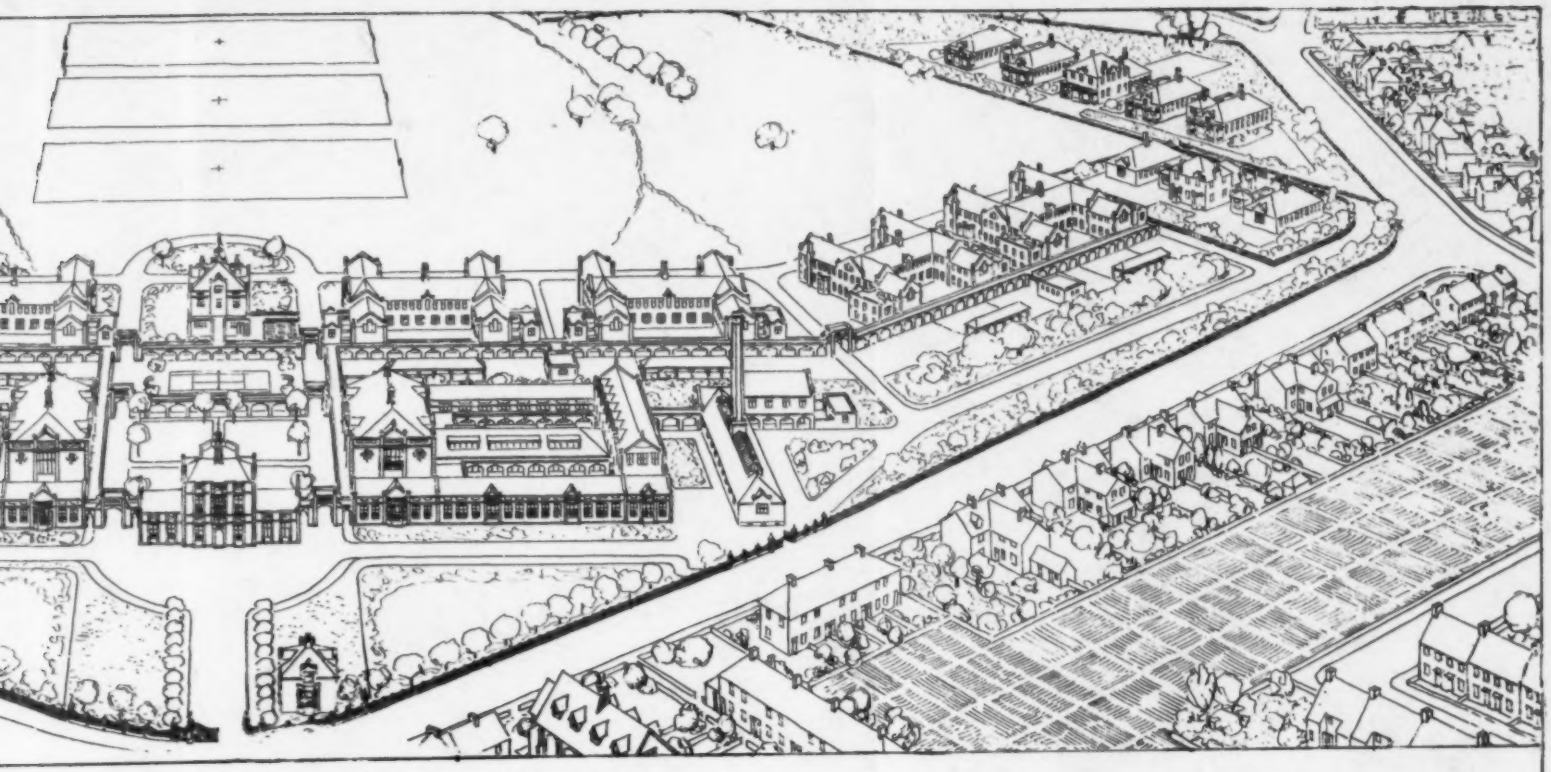
Assembly Hall & Class Rooms

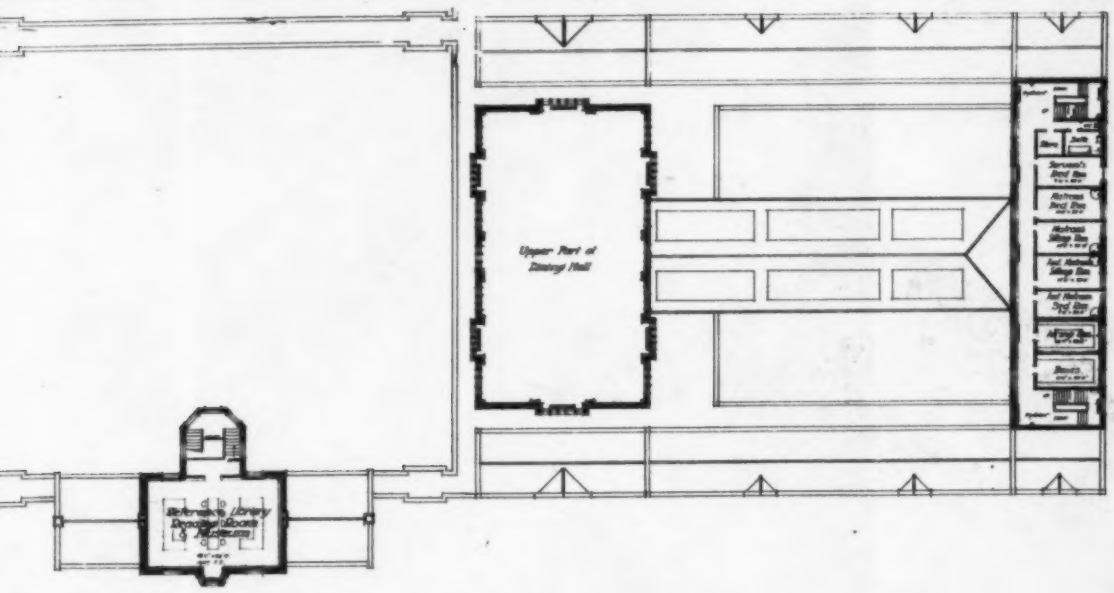
Administrative
Offices

GR

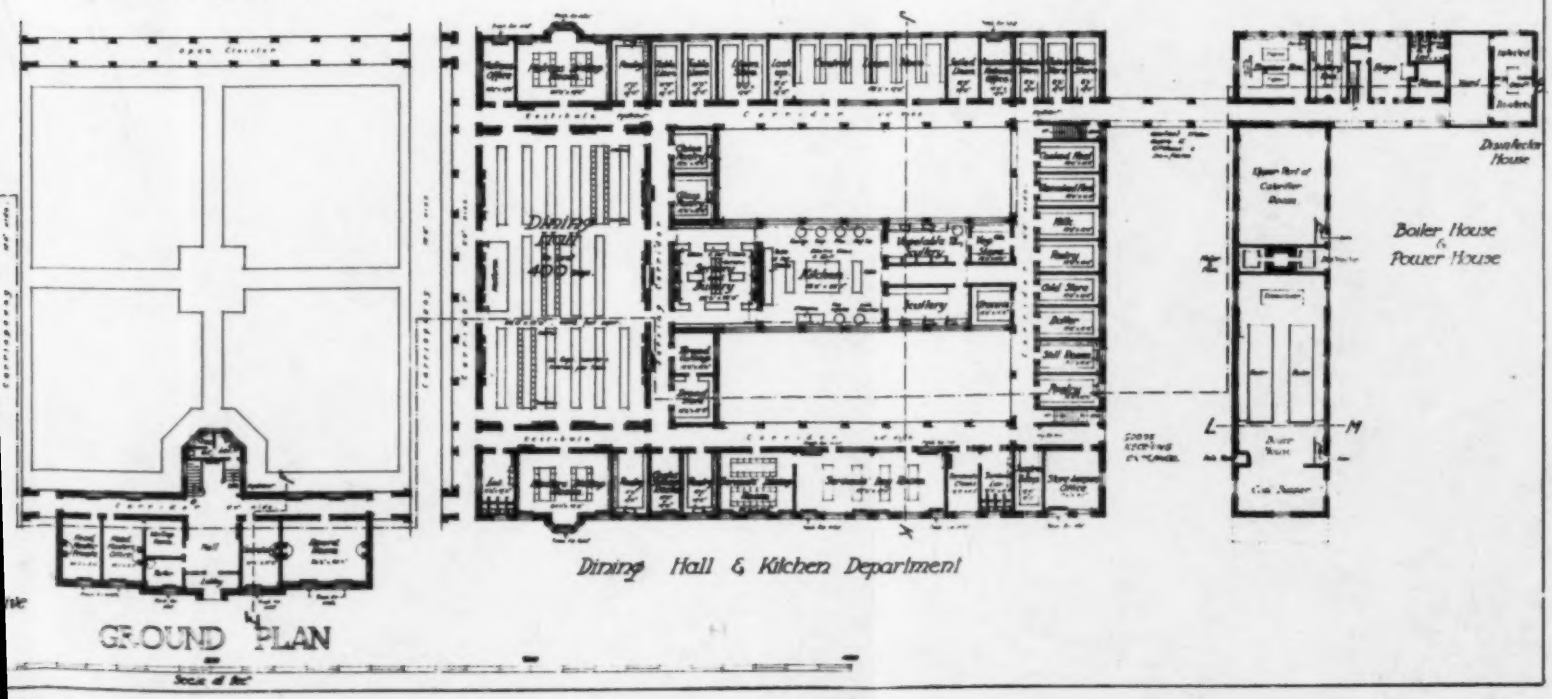
ROYAL MASONIC INSTITUTION F

DESIGN BY MESSR





FIRST FLOOR PLAN



GROUND PLAN

STITUTION FOR BOYS: PROPOSED JUNIOR SCHOOL, BUSHEY.

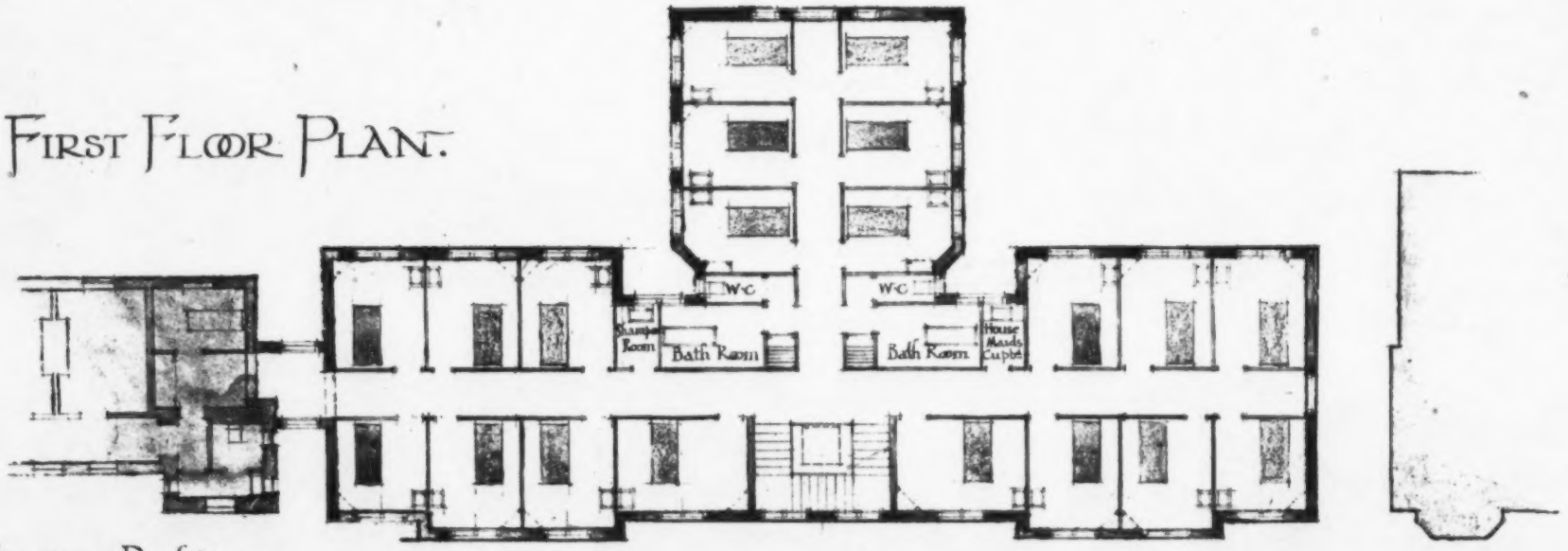
GN BY MESSRS. W. & T. R. MILBURN, FF.R.I.B.A.

UNIV. OF MICH.

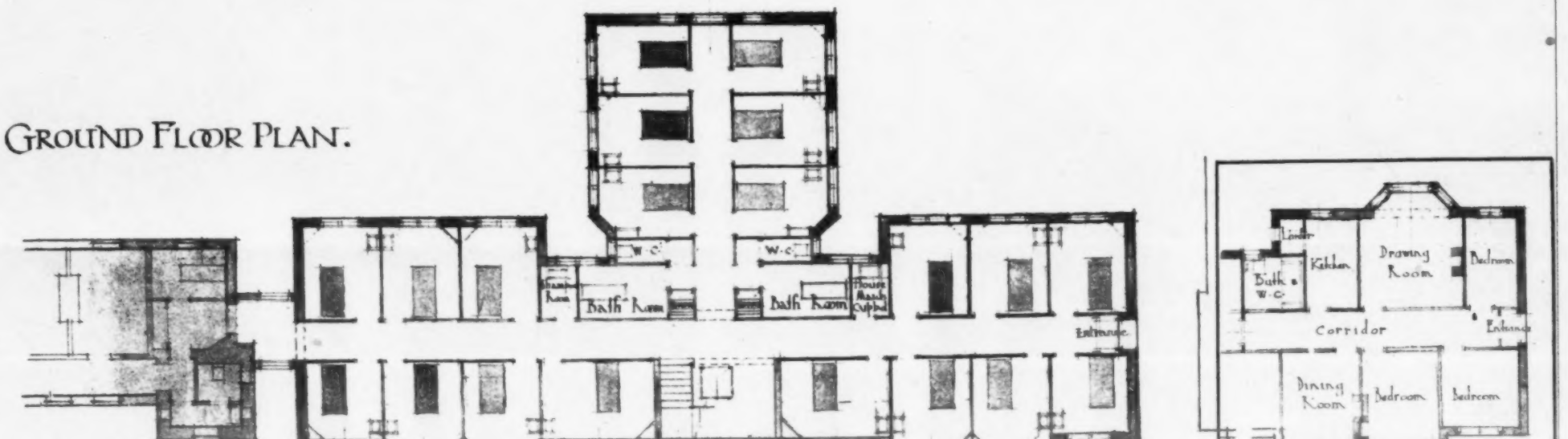
St Marylebone Hospital.

Proposed Additional Sleeping Accomodation for Nurses.

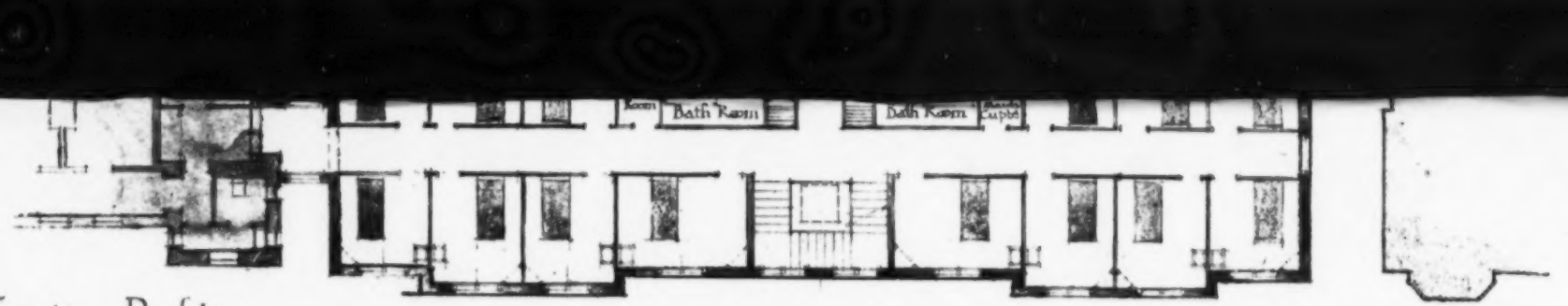
First Floor Plan.



Ground Floor Plan.



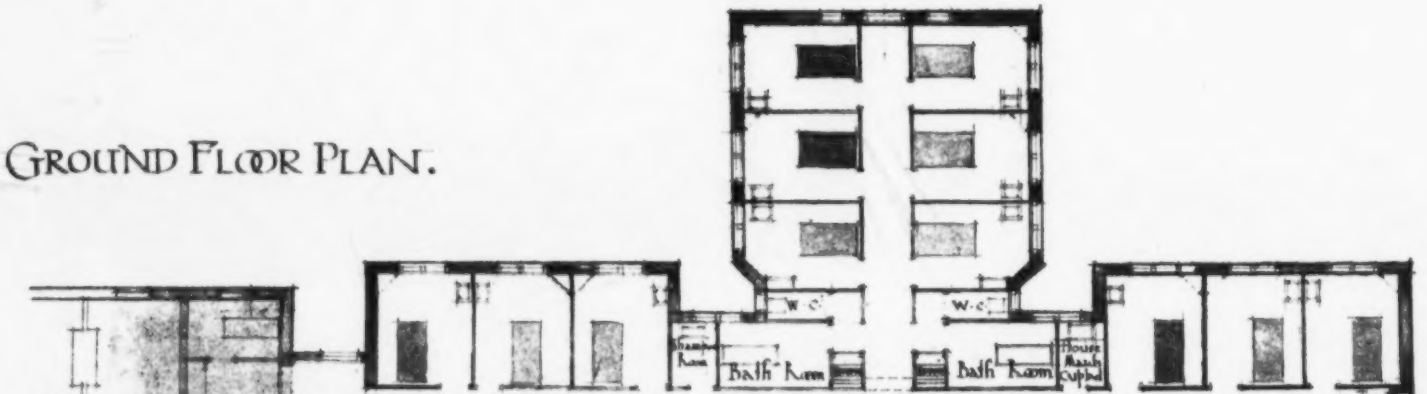
THE BUILDER, MARCH 7, 19

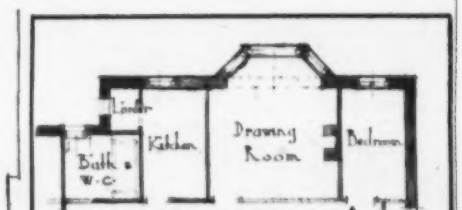


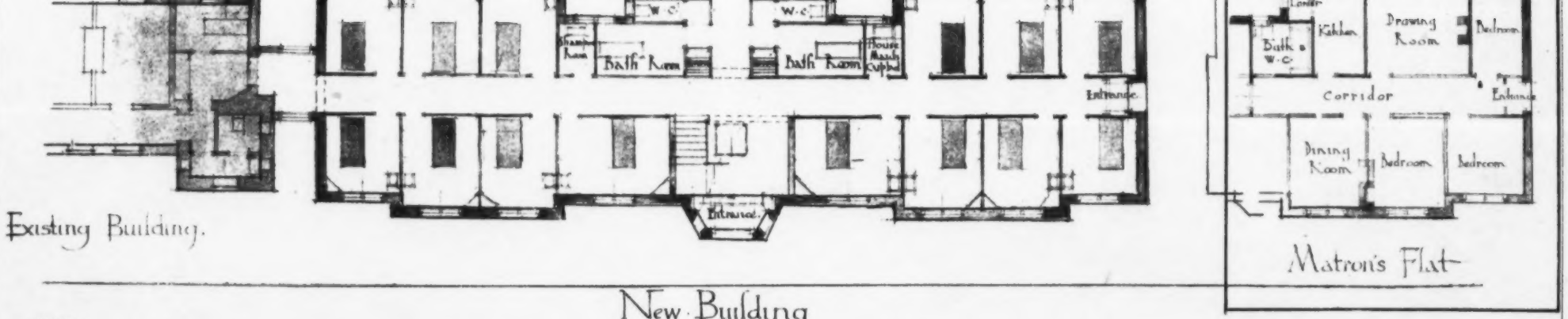
Existing Building

Boundary Wall.

GROUND FLOOR PLAN.

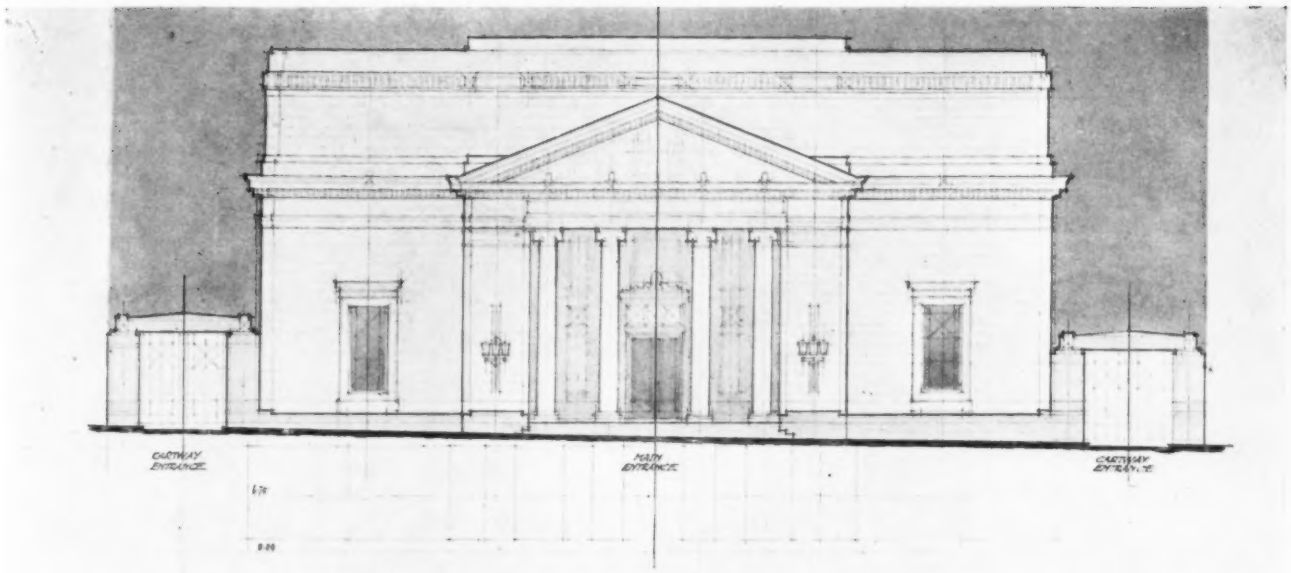




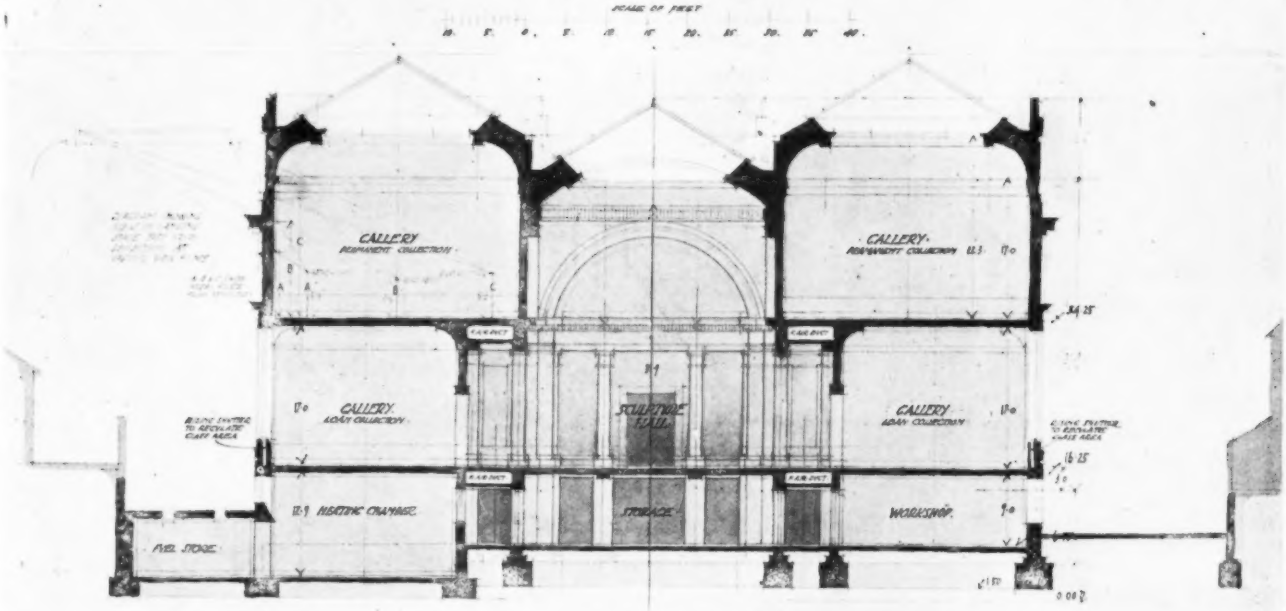


MESSRS. CONSTANTINE & VERNON, F. & A.R.I.B.A., ARCHITECTS.

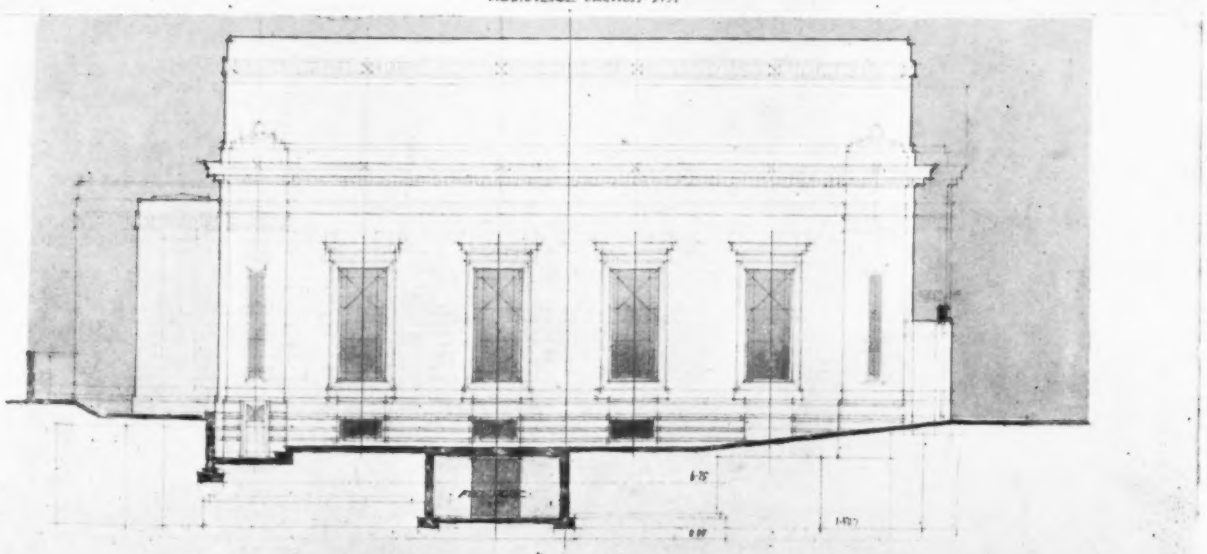
UNIV. OF MICH.



NORTH ELEVATION
TO
QUEEN VICTORIA SQUARE



TRANSVERSE SECTION A A

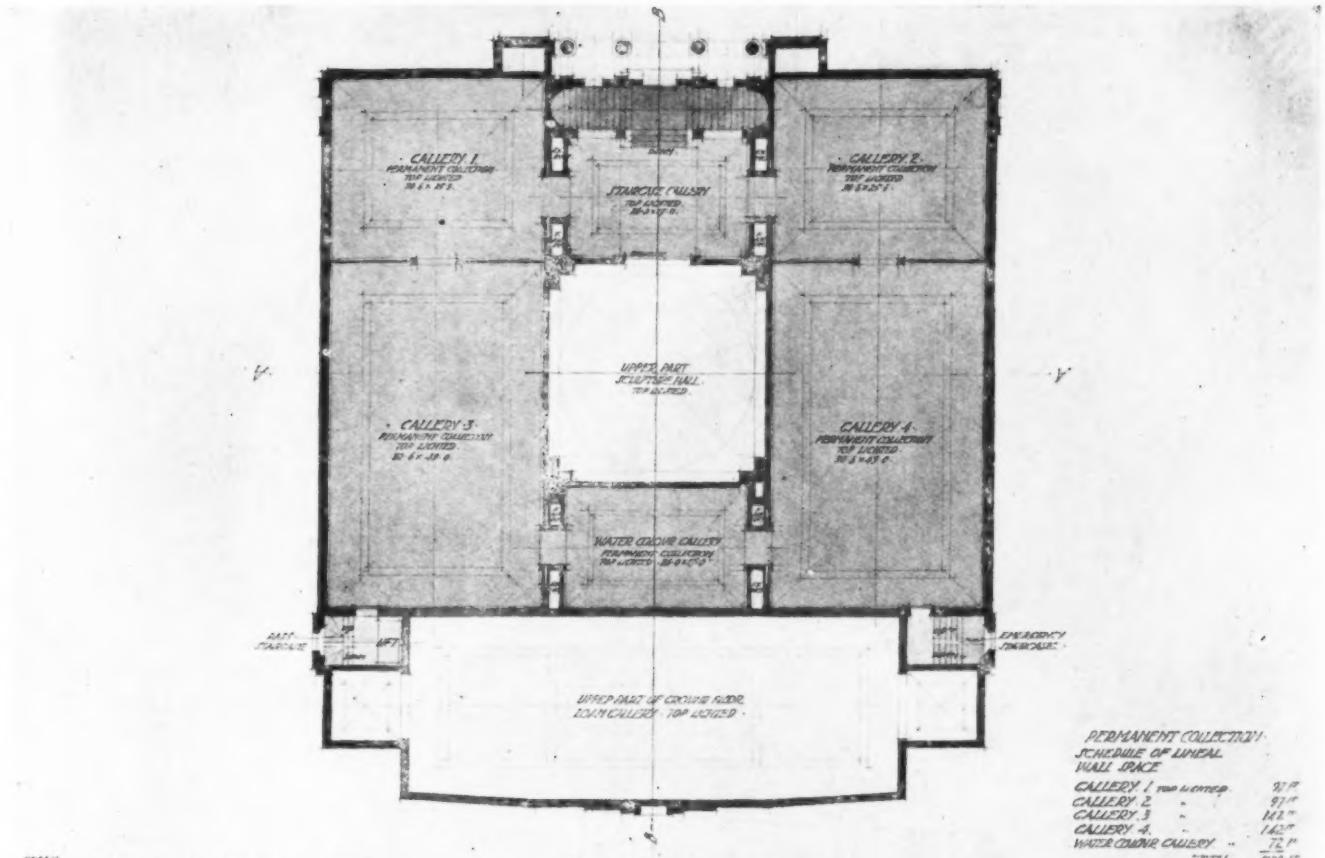


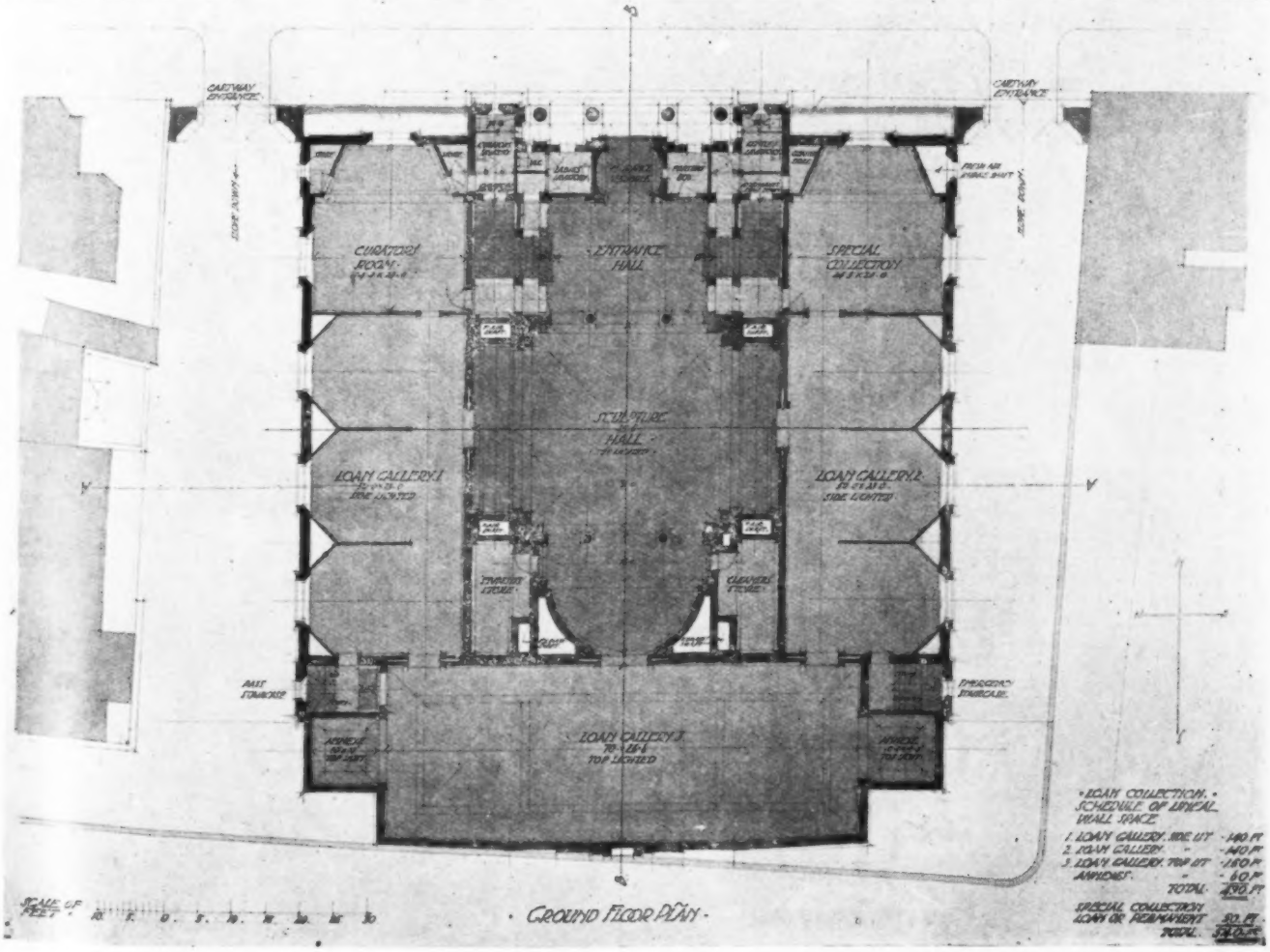
EAST ELEVATION

Hull Art Gallery Competition. Design submitted by MESSRS. H. V. ASHLEY & WINTON NEWMAN.

[The first and second premiated designs in this competition, by Messrs. S. N. Cooke & E. C. Davies, and Messrs. J. S. Gibson & Gordon, respectively, were given in our issues for November 23 and December 7, 1923.]

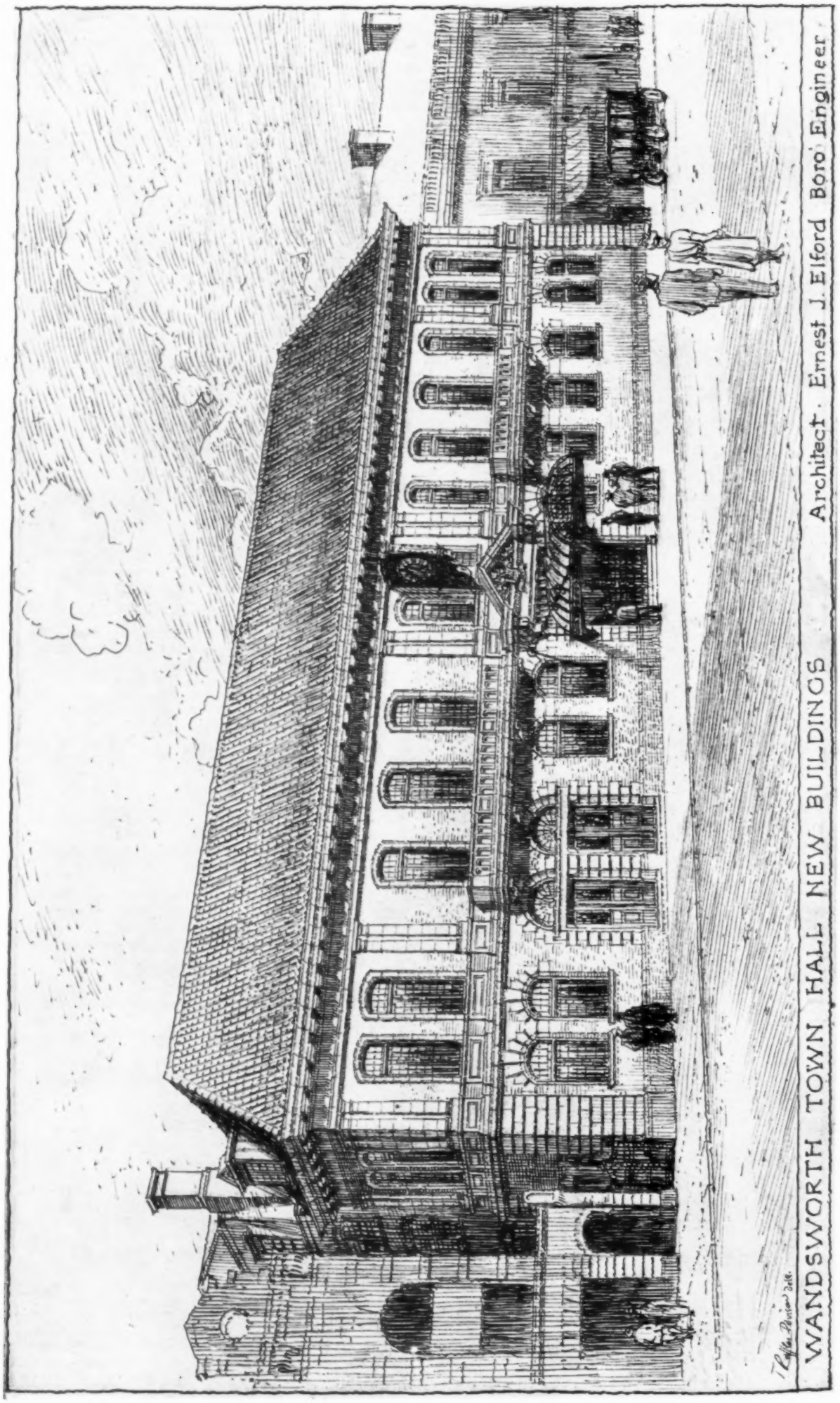
CITY OF MICH.





Hull Art Gallery Competition.

Design submitted by MESSRS. H. V. ASHLEY & WINTON NEWMAN.



Mr. Ernest J. Elford, M.Inst.C.E., Borough Engineer and Surveyor.

WESTMINSTER ABBEY RE-EXAMINED.

BY W. R. LETHABY.

Transept Front and Great Portals.

WHILE reading Mr. Westlake's excellent and comprehensive new history of the Abbey, I have been drawn to look over notes which have accumulated since I tried, in "Westminster Abbey and the Kings' Craftsmen," 1906, to give an account of the way in which it was built and of the workmen engaged. Two sections of my last series in *The Builder* dealt with this same subject and I hope now to get some other observations recorded by way of addition and correction.

. . . . . .

North Transept Front.—This was the principal façade of the church as rebuilt by Henry III, and here—because it fell within the limits of the first work and from its position in regard to the Palace and the chief approach by King-street—were placed the chief portals. While mentioning King-street, I may recall that it was only recently destroyed in widening the south end of Whitehall well within "my time."

The transept front was, I have no doubt, pushed on with the earliest work undertaken—that is, it was begun in 1245. The king would have been specially interested in these splendid doorways. As will be explained, they show close study of the portals of Amiens Cathedral, and the first master mason evidently knew that great work as well as Reims and the Ste. Chapelle. This master was Henry de Reyns (see *The Builder*, September, 1923).

From what is known of it, and as an important work built in the middle of the thirteenth century by the connoisseur king, this front may be regarded as the supreme example of our mediæval art. A student who would make a trustworthy drawing of the front by carefully bringing together all the evidence that can be gathered with the least possible amount of conjecture, would make a valuable contribution to the history of English art.

In 1906 I sought to show, by an examination of old prints and other evidence, what the main details of the north front were like before it was partly recased in Wren's time, and again almost totally recased at the end of the nineteenth century. The conclusion was arrived at that the north transept end, with its great sculptured portals, was modelled on the west front of Amiens Cathedral, which could hardly have been completed when the Abbey was begun; the central doorway contained a sculptured tympanum representing the Doom, and there were large statues of the Apostles in the jambs below. The windows in the recesses above the lateral porches were originally of the form in which they remained when I drew them in 1875; the forms of the original tracery filling the transept gable had also been preserved when I drew it at the same time; the form of the rose window might be established by a comparison of authorities; a passage-way arcade below it had eight pairs of openings distributed in the side and central compartments thus | 2 | 4 | 2 |, and not as in the "restored" front thus | 3 | 5 | 3 |.

The authorities were gone over again in the Journal of the R.I.B.A. in 1920, and several of the prints referred to were reproduced in a form useful for reference. The conclusions which I had freely arrived at in 1906, without preconceptions, but merely by an examination of the evidence, were here contradicted. It must, however, be recorded that I remain of the same opinion still. It is dreary work arguing again over conclusions which are denied, but new evidence is provided by a representation of the north front of the Abbey on a seal of Westminster School, which, I believe, was unknown in 1906; at least, I did not know it. This seal, dated 1661—the year following the Restoration of Charles II—is an amazingly delicate piece of work, engraved by Simon, who was, probably, the most remarkable English artist working in the Commonwealth period. Thomas Simon was chief graver to the Mint, and he walked at the funeral of Oliver Cromwell with the master carpenter, master joiner, master carver, and master mason, Mr. Philips. (No architect!)

The view of the Abbey given on the seal is of more value, as it is in elevation and nothing is hidden by projecting buttresses. It shows the later porch, which was erected against the central portal late in the fourteenth century, as still existing. It was pierced with such large openings that it must have been quite a glass-house. The gables of the side porches appear, also the circles in their tympana, and sculpture seems to be indicated in these. Large sculptured figures are on the buttresses, and on each side of the lateral windows. There are shields in the spandrils of the arches over these windows, and of the arches ranging with them in the central bay. The wall arcade between these arches and the rose window has four pairs of openings in the central space and two at the sides | 2 | 4 | 2 | as before described (Fig. 1).

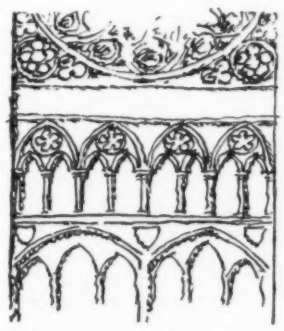


FIG. 1.—SEAL ENLARGED.

This part is very clearly rendered; there were cinquefoils in a circle above the pairs of openings. The seal impression is injured at the rose, but enough remains to indicate the general character of the tracery and the pierced spandrils. Because of the small scale only about half the number of divisions were given in the tracery.

I give a general rendering of what I suppose it was like in Fig. 2, which may be compared

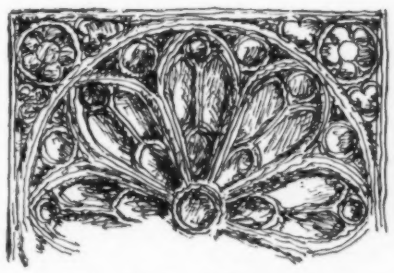


FIG. 2.—SEAL RESTORED.

with the results reached before. The difference between the triforium windows to the east and to the west of the transept is accurately indicated on the seal. The main gable of the transept was obliterated.

We know that the tracery filling this gable had three circles containing cinquefoils above a blank arcade; two of the circles were pierced as windows, but the central upper one was blank. It must, I think, have contained a figure of the Majesty. Such gable figures existed at Wells, Lincoln, Salisbury, Crowland and Lichfield. The actual figure from the gable at Crowland is the battered image now at the triangular bridge, and usually called St. Ethelbert. The gable figure from Lichfield is, I believe, at the village of Stoke (?), not far away from the city. The blank arcade beneath the three circles was probably intended for standing figures, possibly the orders of angels as at Wells.

Great Portals.—In my former study of the north front I pointed out that its design was based on the noble west front of Amiens Cathedral, and I gave a diagram of the scheme of the latter. I have now re-examined the evidence, and there cannot be a doubt of the facts, as even the sketch plan of the Amiens porches is sufficient to show (Fig. 3). The influence of the

FIG. 3.—AMIENS.

west front of Amiens on the north front of Westminster is so marked that it becomes highly probable that the sculptures of the portals were also similar, and that the Last Judgment was the subject assigned to the central porch at Westminster.

This supposition is confirmed by the fact that the jamb statues at Amiens were of the Apostles, and there is a record that at Westminster there were statues of the Apostles of full size by the central door.

The magnificent south porch at Lincoln, part of a work just subsequent to Westminster, and obviously inspired by it, is sculptured with the Last Judgment. Christ appears in a quatrefoil, together with cross- and spear-bearing angels in the upper part of the tympanum, and the rising dead were below. (The slightly later west porch at Lichfield follows the same type.) The little figure sculptures and open-work foliage in the arch-orders are so like those of the Chapter House at Westminster that a close relation between the two works at Westminster and Lincoln is obvious.

The drawings and engravings of the central porch at Westminster show a large quatrefoil in the tympanum, and Scott found evidence for it and followed it in his "restoration"

At Amiens the top of the central tympanum is occupied by Christ on a throne with hands upraised exhibiting His wounds. On each hand is the Virgin and St. John; also, on one side, an angel bearing the cross; and on the other an angel with the spear and nails. Above is a group of angels carrying sun, moon, &c. Below is the separation of the just and unjust—a yawning beast's head represents the jaws of Hell. Still lower, little bare bodies scramble out of long box-like tombs; while angels blow trumpets. Around the arch-orders are a crowd of lovely worshipping angels. On the central pier of the doorway is a standing figure of the teaching Christ; the side door-posts have *bas reliefs* of the wise and foolish Virgins. To right and left, on the deep splayed jambs, are the Apostles, supported on corbels projecting from the jamb columns. The lower part of this jamb is covered by a series of reliefs in medallions, arranged so as to touch one another like rows of coins. On the slanting jambs small shafts are placed between the larger ones, which bear the statues. Over the larger shafts are sculptured arch-orders, while over the lesser shafts they are moulded. This alternation of arch-orders is followed at Westminster and at Lincoln. Some statue corbels which remain at Westminster are at a similar height to those at Amiens, and it may not be doubted that some of the standing figures at Westminster were set against the jamb columns. The jamb figures at Lichfield are placed in this way. The medallions just mentioned at Amiens were followed in the filling of the tympana of the lateral porches at Westminster (Fig. 4). Again, at Amiens, the door jambs were enriched by square diapering of a type which is found on the door to the Cloister at Westminster, and it doubtless existed at the north porches as well.

It seems probable that the right-hand lateral porch at Westminster, like that at Amiens, would be devoted to the Virgin. The keystone of the vault of the recess, which is one of the very few original external stones which remain, is carved with an angel which had outstretched arms, and hands which probably held a crown. This would be especially appropriate above some sculptures of the life of the Virgin. The bosses of the vault of the aisle *within* this door

are of figure sculpture, differing in this respect from others which are of foliage, and these sculptures, David with his harp, the Coronation of the Virgin, &c., seem specially appropriate to this position. So, again, do the carvings in

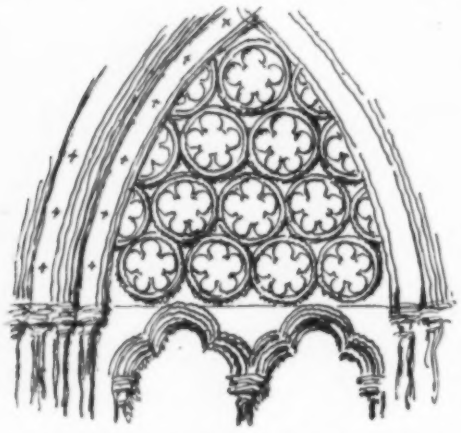


FIG. 4.—EASTERN RECESS IN 1818: × × SCULPTURE CUT AWAY.

the spandrels of the wall arcade—a palm branch, St. Margaret the Virgin, &c. Further, there is a record that in 1644 and 1645, when the Abbey suffered from the process called "cleansing out pictures," that one, Thomas Stevens, was paid "for cutting out a crucifix at the north end of the Abbey" (May, 1644); and Thomas Gastaway was paid £3 3s. "for work done on the outside of the north side of Westminster, including the hire of scaffolding for taking down statues of the Virgin Mary and other saints" (May 13, 1645). At Amiens, the left-hand lateral doorway is devoted to the story of the local saint, and at Westminster the sculptures in this position *may* have referred to St. Peter and the Confessor, but of this there is no other evidence.

That the central portal contained the Majesty in quatrefoil on the tympanum, with cross- and spear-bearing angels on either hand, and others with trumpets, and the rising dead below, is as certain as circumstantial evidence can make it. Scott's original drawings for restoring these porches are in the Print Room at the Victoria

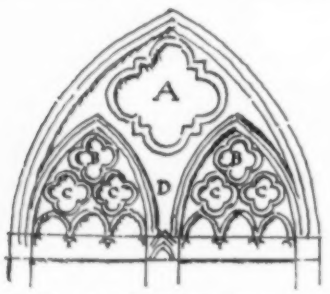


FIG. 5.—CENTRAL PORCH.

and Albert Museum. He proposed from the first to put a quaterfoil in the tympanum, but it was comparatively small and had a major, vertical axis. When the work was begun and Wren's casing of the tympanum was stripped off, evidence for the position, form and size of the original panel was found. (My authority for this is some paper by the late Mr. John O. Scott, to which I have mislaid the reference).

The panel containing the Majesty as executed is of great size, and the form is that of a quatrefoil with square angles projecting between the curves. Now, in the little church of East Bedfont, Middlesex, there is a remarkable wall painting of "The Doom," which may be dated about 1260-70.

On September 15, 1923, I made a pilgrimage to examine this painting, of which good copies are preserved in the Victoria and Albert Museum. There are two paintings in recesses which adjoin at the north-west angle of the chancel arch; the Doom is in the northern recess and the Crucifixion in the eastern. The paintings are in the form of the tympanum of an arch about 4 ft. wide and as much in height. They are of fine style, simply executed in red, grey and white, the background red, and they must be the work of a London or Westminster painter. The Doom picture has a solemn figure of Christ seated in a large panel of exactly the form of Scott's panel at Westminster; He throws up His hands to expose the wounds, which also appear on the feet and side. In the lateral lobes of the quatrefoil are angels, the one on Christ's right supports the Cross and the opposite one holds the spear and a nail. Directly below the quatrefoil are three or four small figures pushing up the long covering slabs of their graves, while right and left in the lower corners of the arch-form are larger figures of two angels blowing trumpets. This remarkable painting, it would appear, must be based on the design of what, when it was painted, was the most splendid new sculpture of the Doom in the portal of Westminster Abbey.

Again, there is another strange piece of constructive evidence. Stone church, in Kent, has long been acknowledged to resemble the work at the Abbey very closely, and Street thought the details were even superior at the village church Now on the south side of the church is built in a beautiful early piece of sculpture of V form representing small figures pushing away the lids of their long, box-like coffins. Street, who illustrated it, in his little book on the church, describes it as: "A spandrel of an arcade, sculptured with a portion of the Resurrection of the Dead. It very nearly fits the spandrel of the arcade discovered in the south wall, and in order that it may be preserved I have had it placed there. The treatment of the bodies coming out of the coffins is good and the work is about the date of the church." Again of the fragments actually found in the south wall he writes: "A portion of an arcade; this seems never to have been completed, for whilst the lower stone has the dog-tooth enrichment of the arch finished, the upper stone has it simply blocked out. . . . We found a corresponding fragment of arcading built into the upper part of the chancel wall. . . . The conclusion at which I arrived is that these are fragments abandoned at the very time the work was going on."

I believe that the sculpture is part of the middle spandrel of a tympanum sculptured with the Doom copied from the Westminster doorway, and I hope to be able to work this out more fully after another visit.

Mr. Westlake, in his big new history of the Abbey, mentions Master Ralph of Dartford, mason, who was living at Westminster in the time of Henry III, and suggests that he may have been the master of the Lady Chapel begun in 1220. Stone is close to Dartford, and it seems possible that the link between the village church and the great Abbey was this Master Ralph.

Mr. Westlake is now kind enough to give me the full reference. It is the lease of a house "opposite the Almonry near the messuage of Master Ralph de Derteford cementarius." The date is that of Abbot Richard [de Berkyng], *i.e.*, 1222–46. (Westminster Abbey Muniments, 17342.)

The following notes from Mr. John O. Scott's report in 1880 on the work to the porches is worth reprinting: "Very careful investigations were made in 1871 and these led to the discovery of much of the antient design, including portions of the *stone roofs* or gables over the portals, also of the long *stone splays* below the transept windows [*i.e.*, the slopes] against which the gables abut. . . . The antient stone being much decayed could not be wholly retained, but some portions are still performing their office as they did 600 years ago. . . . Nearly the whole of the *mouldings*, except those on the acutal face of the gables, have been traced more or less completely, together with the *foliage* and *sculptured* orders of the arches—not the actual carving, indeed, but its position and size and heights of its main divisions, as also the mode in which *marble* was introduced." The italics are mine, the reference to sculptured orders is especially valuable. I believe that the old porches were still untouched in 1875. In a letter of 1910 the late Mr. S. Weatherly told me that "there was a long interval between the measurements and my perspective [1878] and the work being carried out."

In a letter of September 2, 1907, Mr. C. R. Baker King gave me the following facts:—The sizes of the voussoirs of the arches were carefully followed; the carving in the arches had been cut away, making hollows; the abaci of caps were of Purbeck; the neckings of the capitals extended along the jamb splays [not so now, but so at Lincoln]; a considerable portion of the ancient stone slopes remain; the pitch of the gables was given by several which had the intersection of two slopes; the sunk panels in the tympana had all been pared down [the cinquefoils must, I think, have taken the place of sculptures].

Many years ago, in a special study of the Doom door, at Lincoln, I identified two most beautiful female figures on the jambs as impersonations of the Church and the Synagogue. These are much in the style of Westminster sculpture and I have little doubt that the Lincoln statues were imitated from some once at Westminster. Similar pairs of figures are found at Reims and Notre Dame, Paris. They were, M. le Duc says, specially set up in cities where many Jews resided. Again, at Lincoln, one of the sculptured arch orders has a series of the wise and foolish virgins. As we saw above, these figures are sculptured on the door jambs at Amiens, and it may not be doubted that what is found at Amiens and Lincoln was also at Westminster. A second arch-order at Lincoln has figures of kings and ladies, probably, I think, the royal saints of England, and their subject would have been specially appropriate at the Abbey. Comparison of Amiens, the painting at East Bedfont, &c., shows that the Christ at Lincoln (and at Westminster) raised his hands; this noble figure and the angels on either side have been unhappily restored.

The drawing of Wren's time indicates the general design of the tympanum of the Doom portal. It had a large quatrefoil at the top and sub-arches divided into tracery beneath, the tracery rising from level lintels. How the tracery sprang from the marble lintels is explained by a contemporary doorway in the cloister which opens to the Library stair. There are here little corbels wrought on the lintel from which the tracery of the tympanum springs; moreover, the tracery is filled with carving, although it is of foliage and not of figure work, as would have been the case at the Doom door. Putting together all we know, I suggest that Fig. 5 indicates the most probable arrangement of the tympanum. A is the Majesty with two angels; B B trumpeting angels; C C the rising dead; D hell-mouth, as at Lincoln (see also Amiens above). We have seen that Scott found evidence for sculptures in the arch-mouldings of the north doors. Cottingham had a scroll of foliage of finest style "completely undercut with lions and birds at intervals," and described as from "the Door of north aisle of Nave." Lions and pairs of birds are found not infrequently in early mediæval art as symbols of Fortitude and Concord. Keepe (1683) described the central porch as "adorned with several intaglio's, devices, and fretworks that helped to the beauty thereof."

It appears from a description of the transept front in "Hatton's New View of London," 1708, that the sculptured reliefs of the central porch must have been defaced before that time, although those of the lateral recesses remained. "The north end was adorned with the figures of the 12 Apostles and some others (as 8 more) to be seen higher, as big as the life and placed in Gothic niches, of which there remains 6 below and 4 above, besides a prodigious number of small figures carved in *relievo* within the east and west porticoes of 3 at this north end."

Some slight notes of mouldings and details were made by John Carter. A drawing of the eastern recess made in 1818, by Ambrose Poynter, was shown to me by his grandson (Fig. 4). Important drawings of Wren's time, companions to the elevation published in the *Building News* (October 26, 1888), were also in the possession of Mr. Lee. These were most valuable sources, and I am sorry to say that

I cannot tell where they are now. The scale of the work is not likely to be recognised without some dimensions; it is 14 ft. to the soffit of lintel of central doorway and 37 ft. to the vault of porch; the central arch is 35 ft. high; and the side arches over 25 ft. high, and it is 50 ft. to the socket of the central gable-cross.

When the repairs of Wren's time were done, older wooden doors were new cased. These were broken up and thrown aside in the more thorough restoration of later days. A considerable fragment of one which remained has recently been adapted as a door to the stair of the Octagonal Crypt. It has diagonal framing covered with plain boarding, and such doors are shown at the North Transept in one of the seventeenth-century views of the interior.

Colouring, &c.—This wonderful work would have been completed by the usual vesture of whitening, colour and gilding. Our modern way of setting up costly structures in friable stone entirely without surface protection is a modern heresy which I can only suppose rests on an unconfessed and, indeed, unrealised idea that decay is good for trade. The arcade and sculptures of the west front of Wells Cathedral still show such extensive remnants of a general coating and traces of painting and gilding that it is certain that the whole front was brightly illuminated. Stains of colour—red and fair copper-green—are preserved in the west porches of Salisbury and in the great open north porch; here and there on the walls are patches of the general wash, and the wooden doors were painted. High up under the great open arches of the west front of Peterborough Cathedral I observed, nearly thirty years ago, whitening with much original thirteenth-century lining-out in red. Stukeley records that the sculptured west front of Crowland Abbey—which may be counted as one of the derivatives of the north front of Westminster—was coloured. Oliver observed the colouring of the sculptured front of Exeter Cathedral, and slight traces here and at the north porch are still visible. The wooden doors were bright red. Britton also noticed remnants of colour on the great Judgment portal of Lincoln, which, as we have seen, was practically a copy of the Westminster portal. At Westminster itself, it is known that the sculptured doorway from the Cloister to the Chapter House was brilliantly coloured and gilt. Similar evidence is to be found for the great foreign churches. I have observed traces of chevron patterns on the shafts of the west front of Reims; and there is record that the west portals of Notre Dame were largely gilt. The second half of the thirteenth century was indeed the special age of gilding, and the sculptured north porches would have been gay and glistening beyond our power to imagine. The rest of the exterior, except the marble shafts, capitals and bases, which were polished, would have been whitened and "picked out" with red. In the accounts of Henry the Third's works, whiteners appear, but we are not told if they were engaged on the exterior. In the orders for Henry the Seventh's Chapel, however, it is provided that the sculptures within and without should be coloured.

When the church was consecrated and the golden shrine of the Confessor was carried through the great central portal (in 1269), its fair shining beauty must have been entrancing.

Obituary.

We regret to announce the death on February 27, at Highgate, of Mr. George Lethbridge F.R.I.B.A., aged 76. The internment took place on Monday at Highgate Cemetery.

We regret to announce the death on March 2, of Mr. Thomas Edward Mundy, A.R.I.B.A., F.S.I., of Ember Lea, Elm Tree-avenue, Esher, aged 79. The funeral took place at Highgate on the 6th instant.

The death has occurred recently of Mr. Edmund Lewis, the Common, Whitchurch, a well-known Glamorganshire builder and contractor, who was for many years a member of local government bodies in the Cardiff-Penarth areas.

ST. PAUL'S BRIDGE.

At a recent Conference on this subject, the following statement, with covering letter, was sent to the Prime Minister asking him to receive a deputation:—

To the Rt. Hon. J. Ramsay MacDonald, M.P., P.C., Prime Minister.

St. Paul's Bridge.

SIR,—The undersigned are members of a Conference specially appointed by the Councils of the Royal Institute of British Architects, the Town-Planning Institute, the London Society, and the Architecture Club. They represent the concern felt by these four Societies on the subject of the proposed scheme for a bridge across the Thames opposite St. Paul's Cathedral. It is in view of the special urgency of the case (in connection with the possible allocation of public money) and of its enormous importance, that they ask the permission to appear before you by deputation; or if this is impossible, that a hearing should be allowed before the Ministry of Transport. The nature of the case which the deputation, if sanctioned, will present, is respectfully laid before you in the attached statement.

The design of the bridge would, no doubt, before execution, necessarily come before the newly-appointed Commission of Fine Arts. We venture to suggest that a matter so vitally affecting the public's interest in the æsthetics and amenities of London should come before that Commission at the present stage so that its views may be considered in conjunction with the practical and economical aspects before any commitment is made.

We are, Sir,
Your obedient servants,

CARMICHAEL THOMAS, WILLIAM DAVISON, DAVID BARCLAY NIVEN, *on behalf of the London Society.*

S. D. ADSHEAD, W. R. DAVIDGE, R. A. S. PAGET, W. REES JEFFERYS, *on behalf of the Town Planning Institute.*

RALPH KNOTT, E. VINCENT HARRIS, R. M. BARRINGTON-WARD, JAMES BONE, *on behalf of the Architecture Club.*

HARRY BARNES, BANISTER FLETCHER, PAUL WATERHOUSE, H. V. LANCHESTER, *on behalf of the Royal Institute of British Architects.*

Statement by Conference on St. Paul's Bridge.

The undersigned, being members of a Conference specially nominated by the Councils of the Royal Institute of British Architects, the Town Planning Institute, the London Society, and the Architecture Club, have, at a Session held on Friday, February 22, 1924, issued, by unanimous resolution, the following statement of their opinion:—

It appears to us, as representing Societies all of whom are concerned in a greater or less degree with the attempt to consider practically, æsthetically and economically the problem of London's need and development, that the expenditure of public or other funds on the scheme for a St. Paul's Bridge, which is, we believe, now before the Court of Common Council, the L.C.C., and possibly the Ministry of Transport, should be vetoed or deferred. We protest against it chiefly because it seems to us to be conceived without sufficient breadth of outlook. To many of us it is a matter of conviction that no large and important road and bridge schemes within the Metropolitan Area should in these days be taken in hand without the previous preparation of a complete and comprehensive plan for the re-arrangement of London's traffic ways. London's great size, far from being an excuse for piecemeal changes, actually renders them, in our opinion, inexcusable. Apart from this consideration we feel that the scheme lacks forethought and ignores certain existing conditions.

Its road connections on the Surrey side appear to unite it with a point which already has direct and easy access to the little-used Southwark Bridge, which is within 300 yards. In this respect it would seem that its utility is unimportant. In any case it is not, as far as the public knows, linked up with any thought-out scheme for the town planning of the Surrey area.

On the Middlesex side, its utility again is questionable, while its disadvantages are obvious.

The choice of the east end of St. Paul's Churchyard as a space for the encouragement of additional traffic appears to us singularly unfortunate, and it appears likely that the arches carrying the approaches between viaduct and viaduct may produce an embarrassment of street planning and of hygienic arrangements in a crowded area which is not yet fully considered.

Quite apart from questions relating to the stability of the Cathedral—questions which, we believe, are sufficiently grave—it is clear that the introduction of a north and south highway at this part of the City must lead to a serious obstruction of the existing east and west streams of traffic, both that in Cheapside and that in Cannon-street.

If there is, as it seems to us, any chance of the proposed bridge and its contributary roads becoming a definite impediment rather than an improvement to existing traffic conditions, it is clear that funds spent on it will be funds spent amiss.

It is, therefore, on the general ground that we believe the scheme to be based on an inadequate study of present difficulties and an incomplete survey of remedial possibilities that we most conscientiously urge its abandonment or postponement.

If, as is possible, the project is being hastened forward as a means of finding work and wages for some sections of the unemployed, we would respectfully point out that two bridges at Richmond and Mortlake, already approved in connection with the approach roads in the western river-side suburbs, are immediately ripe for construction. These form part of a considered system of general road improvement.

We press these points with a sense that the views we put forward and the anxiety of which they are the outcome are sympathised with not merely by the Societies which appointed us, but by a large section of the thinking public, who would with us deplore the calamity of large public expenditure on a work which may easily prove to be a costly blunder, likely to add to rather than diminish the difficulties of the traffic problem.

Rating.

Mr. C. Dalgliesh recently gave the second and third of his lectures on rating, at the College of Estate Management.

In the second lecture, Mr. Dalgliesh, having dealt with the difficult and interesting questions arising out of the valuation, for rating purposes, of large residential properties, proceeded to discuss the broad principles governing the use of the "contractors' theory" in dealing with such properties as town halls, universities, works, factories, and the non-productive parts of railways and waterworks. The question of the rate of interest to be applied in such cases was considered in some detail, as the lecturer fully realised the difficulty which arose out of the Chertsey case. The governing principles used in valuing quarries, coal-mines, and other similar properties were described, and the necessity for seeing that a sufficient amount was allowed for "statutables" was stressed.

In the third and last lecture, the rules governing the admissibility of evidence as to trade were considered and explained. It was pointed out that only where evidence as to actual lettings was wanting, or where it was impossible to arrive at the rateable value by comparison, did the courts admit such a reference. Example valuations of all the more typical cases dealt with in this way, such as public houses, theatres, and cinemas, were given. In closing, the lecturer dealt with the broad principles established by custom, practice, and the courts in the valuation for rating purposes of railways, tramways and waterworks. He pointed out that the item which often gave rise to serious difference was, as a rule, the "tenant's share," as many of the other items in the calculation were matters of accountancy.

A DISCUSSION OF PRINCIPLES FOR FUTURE BUILDING.

Continuing his series of lectures, Professor A. E. Richardson lectured recently at Pembroke College before the Cambridge University School of Architecture on this subject. In the course of his remarks, he said the present stage of architectural education, using the term in its broadest sense to include those who had received their training privately as well as those who had had the benefit of specialised training, had resulted in elevating the scientific art from the experimental level to a platform of academic status. The term "academic" in this sense being used to class all works derived from tradition. The issue at stake, however, was still confused by undue observance of old work as well as an overweening desire on the part of artists to place fashion above truth.

The modern view point was a catholic one in so far as it noticed the pictorial effect of past achievement. It had resulted from close study, for many centuries, of past building expression; it was based, moreover, on a prejudice for the qualities of form, and was biased towards the purely decorative rather than inquiry into the structural merits of building.

From over study of the past, that was to say, the pictorial aspect of it, the modern in building had arisen, the modern as they knew it, as the French knew it, and as the Americans understood it. It was true that they had reached a stage when renderings of conventional architectural form had reached the limits of expansion in an academic sense, and when a new old style was sought to keep convention active. It was a fact, however, that the present reaction and demand for more logical methods arose from the senseless restraint imposed on artists by prejudices which favour decorative tendencies.

The art of building in this country had reached a curious stage. It represented this period as surely as the art of the Victorian age represented the years of frantic experiment with Gothic, Classic, and every known style. It was impossible to change the work so built or building. As the latest phase of recency it was modern, and there it remained, but to-morrow and the next day it would recede into the limbo of things half-remembered.

As far as they of the moment were concerned it was an interesting sign-post in the life of the nation, and it served to direct them to something better. The twentieth century was still in its youth; were they, as executants, to see it pass into middle age without achieving the true distinctions of manhood? Was it to be written a century hence that the period immediately following the Great War had no architecture worthy of the name at a time when the interests of the whole nation were turned upon the question of building? For they were building now on an unprecedented scale, but architects were not doing the work. How, then, could a change be effected to rescue the scientific art from degeneracy?

Continuing, Professor Richardson said he had endeavoured to explain the present position of building and to touch upon the attitude of executants and the public towards the development of a broader and more defined system. The theory of a method of expression suited to existing conditions and elastic enough to include future possibilities was surely not beyond the comprehension of practising architects. Apart from a restatement of what was known of basic principles it was unwise to attempt to describe architecture or methods of design. If the arts were subjected to close analysis, and their motifs and exemplars set down in diagram form and dissected, item by item, there resulted a certain standardization. This method had been adopted by Guadet, it was being experimented with by modern writers. There were at least, two books due for the press. Within specific limits it had its advantages, but undue observance of laws and rulings thus preconceived would not be productive of fine art. The Beaux Arts system with its classic view point was another instance of the synthetical method, but it was significant that this system had reached its limits and was not regarded seriously by thinkers.

In some quarters the suggested development of a system of structure which would represent present and future conditions of use and function was thought of as being likely to produce a total eclipse of art culture. There were those who opined that buildings of fantastic shape and crudity would result immediately tradition was departed from. A little reasoning would clear this debatable point. What was desired was not so much a new style of building, not so much a departure from what was known, or unbridled originality, as a return to principles inseparable from the vitality of the art. The main issue was that originality was impossible apart from the truth; originality, moreover, was an abstract factor, it could not be exactly defined; how it was gained in the scientific art of building could not be stated.

It might, perhaps, not be possible for the present generation to evolve a new style of architecture. There would be those who would have recourse to fantasy, those who would continue to follow the fashion, and those who would be content to continue to imitate, and caricature, old forms. The structural theory, which had little to do with construction, the latter being merely the means to the end, did, on the other hand, offer a *via media* from present difficulties, and, if rightly appreciated, would be productive of a method of building suited to present and future needs; more especially for the future, for a style was not produced at command. He did not suggest for a moment that they should discontinue their study of the past; it would be suicidal so to do; but they should examine historic art in an enlightened way in order to realise its lessons and to distinguish the good from the bad, as well as to ascertain truths first in order which on the surface were not apparent. Form as well as structure had its share in architecture; it offered types and qualities which would be found to be immutable. Tradition was useful as a species of intellectual scaffolding, but it was useless as an attribute of structural development. The spirit of research, of reasoning, and logic was superior to slavish imitations of tradition. The present task was to re-establish definite principles, which were superior to form, and if the need arose, to subordinate form to principles, and the more closely they approximated to basic laws the less would they desire to imitate the external representations of past art, which more often than not were but a pale reflection of primary truths. The compelling force demanding expression in building was that of humanity; patronage came from divers sources; it was no longer confined to the wealthy or to the State, but was a demand insistent from all ranks of society. To treat the demand of one's fellows with disdain or to attempt to envelop the newer conditions which demanded specific treatment with the worn mantle of tradition was almost as hopeless as Canute's command to the tide.

The philosophy of structure, bound up as it was with realities and questions of use and function, although capable of intellectual interpretation, demanded something more than crude expression. Bold statement was as bad in its way as slavish imitation. The man who was equipped with knowledge of the past was in a better position to realise structure than one who relied on elementary dexterity. Architectural training distinguished the architect from the engineer or the builder. The experiment of a return to traditional methods, although sound in some respects, had the specious failing of paying more attention to form than to utility. It had served one useful purpose inasmuch as it had directed attention to the lack of a structural policy.

The issue before architects at the moment was the same that had ever been present since late mediæval times, that was the truthful expression of contemporary conditions of life. The difficulty had been, and still was, to demonstrate in the concrete and in a characteristic, if abstract, manner the sum total of those conditions.

The structural theory demanded truthful exposition, but the truth was not always polite. After all architecture was as much an art as it was a science, and structure, which was more than the skeleton of building, might be direct and deliberate, it might also be vigorous and upstanding, but it might not always be beautiful.

At this juncture, continued Professor Richardson, it was only fair to again revert to the artistic aspect of the question. Design either structural or decorative, could only result from resistance. That was to say, there must be certain definite reasons for the building to be; in other words, there must be a demand and a given set of conditions. Designs produced without resistance could be classed at once as fantasies, whether they were derived from known motifs or were merely speculative inventions. He had experimented with this branch of design and had found it to lead into the paths of external form and massing unrelated to structure. It was, therefore, essential in building up an architectural idea to arrive at synthesis by analytical means. It was neither wise to limit architectural study to certain phases of history nor to give undue preference to any particular phase, however good the latter might be. Taste, which was essential to good work, must be catholic in its outlook in so far as a study of decorative qualities was concerned.

The issue they were facing at the moment was one that had cropped up many times during the last century; it concerned the need for a form of architecture suited to the present day. Hitherto the question had arisen and had been as summarily dismissed, for architects found it more convenient to go on using known forms and difficult to invent new.

Architecture, like most other intellectual arts, was largely an affair of compromise. It had its cycles and its periods; there was no finality, nothing definite could be stated regarding the course it would take. It had its poetic flights, its prose moods and its dramatic moments of blank verse; it also demanded, on occasion, mere pedestrian exercise. The very variety of its scope militated against general co-ordination and stereotyping. We must not forget that this was the present and the past was the past, otherwise they would continue the vice of regarding effect to be more important than cause.

The mastering of the theory of structure must be the aim of those who would invent a new order of things for building. It must be understood that, in addition to observance of this principle, a designer must be an artist; he must, in short, have had acquaintance with all that was known, and all that was best in past and contemporary art. His outlook must be broad, it must not be limited to the narrow groove of his immediate surroundings—the drawing board and the office—but should embrace the aspects of life and of the kindred arts. The first condition was that an architect should know what he desired, what the client desired, and what would best suit the needs of the site and fulfil the conditions imposed. He must never forget that in addition to being the creator of a building, monument, or work of art, he was also the adviser, and if, after study, he found the conditions

to be of a nature demanding revisions, he should say so. Too often conditions were imposed by a client or a building committee that were unworkable. It was the first essential that they should be modified. Starting from the basic theory of a structural plan, which did not attempt deception, the same ruling of truth and direct statement should permeate the whole grouping of the design both internally and externally. There should be no make-believe or addition of features solely for effect.

The rule of character and fitness applied equally to every part of a building, to the mass as well as to the articulation of the memberings. There should be consistency of design both externally and internally. The structural theory would help towards the development of a definite and expressive style but, as previously stated, it would not do everything. There arose inevitably a point in the realisation of conditions when artistry came into play to co-ordinate the crudities of structure. It was then that the best qualities of past art could be resorted to, not with a view to lifting detail *en masse*, but rather in the direction of bringing to bear the theories gained by methodical study of the work of the past, and to recast them in the crucible of the mind. Study of the past made clear that each phase of history had evolved a complete and definite system of expression. There had always been present harmony, proportion, contrast, and material values such as texture, and other auxiliary factors, to freshen the general idea and to give point and finality to the details. The danger lay in selecting any one of the known historical styles, or a new old style, and literally riding it to death. Neither was it possible, even when frenzy dictated, to mix the styles in the hope of producing novelty. The electic method was a false doctrine. Archæology had at least done one service in defining the different styles. The service still to be undertaken by archæologists and historians was not to show specific differences of detail, but to reveal the conditions which produced the buildings and ornament, and to treat of the structural and geometrical principles which determined their raising.

The philosophy of structure pointed the way out of the maze engendered by over-observance of classic technique. There would, however, always be bad buildings, especially in a country where so little attention was given to the training of architects. For it was a fact that while only 10 per cent. of the architects of this country had received definite training in their profession, the remaining 90 per cent. who got the work had few qualifications to fit them for their calling. In the past, not the immediate past, despite misconceptions and mistakes, the art of building and the resultant forms corresponded to the needs of the times. The present reaction was not directed against the best of past architecture, which would always be referred to and could not be ignored, but aimed at the realisation of new truths arising out of the observance of principles which were eternal.

New Bridge at Norwich.

Whitefriars Bridge, Norwich, was closed to traffic recently. The City Council has decided to put a new bridge of reinforced concrete in its place, at an approximate cost of £16,000. This is part of a scheme of river-widening that is being carried out for purposes of flood prevention; it will also do away with the inconvenience of the present bridge to river traffic.

The original bridge at Norwich was built of wood about seven centuries ago, and belonged to the Carmelite monastery near by. In the fifteenth century it was rebuilt of stone, with one pointed arch, having a span of 30 ft. By 1835 it had fallen into a state of decay, and was then thoroughly repaired.

RESTORATION OF ST. PAUL'S CATHEDRAL.

MR. F. L. DOVE recently gave at Manchester University a lecture on this subject. Mr. H. B. Dixon presided. In the course of his remarks he said there was a tradition, but only a tradition, that a temple dedicated to Diana stood on the site of St. Paul's Cathedral in Roman times, but the first authoritative information they had was that in Ethelbert's reign a cathedral was erected by him and endowed with land in Hertfordshire which still remained the property of the Chapter. This cathedral stood for about 500 years, when it was, together with a large portion of the City, destroyed by fire in 1087. Steps were at once taken to rebuild it, and it was replaced by the magnificent Gothic fane which took 200 years to complete. This was at various times struck by lightning and very greatly damaged, and the spire, 534 ft. high, destroyed. The cathedral was patched up, but the spire was never reconstructed, and ultimately was completely destroyed in the Great Fire of 1666. After the fire the cathedral authorities were very anxious to repair and patch up the old building, and when Wren was consulted on the subject he regarded it as wholly past repair, and a commission of eight, of which he was one, was instructed to report on the rebuilding.

A great deal had been said and written about the foundations of St. Paul's, and although it would have been a distinct advantage if they had been carried deeper, yet on the whole there did not seem to be very much the matter with them. Subsidence of the building undoubtedly took place, due to the heavy weights, but it seemed to have been pretty even all round the dome, and the bulk of the settlement, if not the whole, took place whilst the work was in progress. As far as the lecturer had observed, no settlement in the foundations, nor in the crypt, had occurred for many years. Cracks and fractures began to appear long before the completion of the edifice, so much so that Strong, who was one of the first contractors engaged on the work (there were six of them altogether) was paid for 30,000 ft. of stone used in repairs whilst the work was going on. He believed that practically the whole trouble and damage that had arisen was due mainly to two causes, and in a lesser degree to a third. The first two were due to the fact that the interior of the piers was built of rubble with very large masses of mortar in it, and second to the stone having been laid with an extremely fine bed, in some places stone to stone. The minor cause, which was largely superficial, was the insertion of iron cramps and dowels. In fact, it was owing to one of these cramps bursting off a piece of egg and tongue moulding, which fell during a service, that alarm was first created about the condition of the cathedral.

A great variety of methods, some of them very ingenious, were exhibited in this old repair work. At one time stones were fitted and run with lead, and in the case of wide joints slates were inserted prior to running in the lead, and when he told them no less than about two tons had been taken out of the beds and joints of two piers, they would appreciate to what extent this was carried. It was a mystery how they succeeded in running the lead the distance they did, as it was so extraordinarily thin, frequently they had taken out pieces varying in size from two inches to twelve inches deep and three or four ft. long, and ¼ in. to ⅜ in. thick; the only conjecture that seemed feasible was that, before the lead was poured in, the stone must have been heated by braziers or some other means.

During the course of the work on the two piers at present dealt with, some 1,388 ft. of Portland stone had been cut out and replaced with new, and 48 tons of cement had been used in bedding and grouting up.

Hitherto only one pier had been dealt with at a time, occupying a period of eight years, and the work had now for some time been suspended whilst a commission, consisting of architects and engineers, had been considering whether or not other steps for the security of the dome could with advantage be adopted, but having regard to the fact that the dome had stood with the piers in the undoubted unsatisfactory condition in which they were found, and anything from six inches to nine or ten inches of the outer shell practically doing very little in the way of support, he felt that, with that average of nine or ten inches brought into full commission, the piers were to that extent larger from a weight-carrying point of view, and when the repairs to the whole eight were completed the supports of the dome would be immeasurably stronger than they had ever been, and he thought they might reasonably conclude they would quite well support the load they were asked to carry. In the light of their past experience and with the knowledge obtained by the work already executed, the lecturer thought it would be quite possible to operate on two piers at the same time, thus reducing the time needed by one half.

OXFORD'S PLANNING SCHEME.

A PUBLIC inquiry was held recently, at the Town Hall, to consider the application of the City Council for approval of a resolution deciding to prepare a town-planning scheme under Section 42 of the Housing and Town-Planning Act of 1919. After the Town Clerk had outlined the scheme, the Master of Balliol, who appeared on behalf of the Hebdomadal Council, said the scheme also had the general goodwill and interest of the University. The reason why the University took no special part in the proceedings was due to members wishing to be considered rather as citizens than in any special category, as they knew the whole of the residents of Oxford were equally interested in the preservation of the beauty of the city. The University buildings were the most beautiful thing they had left in England, and everyone desired to preserve them. He was also in general sympathy with the scheme proposed. It was evident that the principle of zoning—applying particular callings to particular areas—was of great importance to the University. It was of great importance to the University to have plenty of space round the buildings without the intrusion of unsightly manufacturing business. Personally, he represented something which was moving in the same direction as the town-planning scheme was intended—the Cumnor Trust, designed for very much the same purpose, to preserve the amenities of the land around Cumnor for the good of the public. Through benevolence they had already been able to purchase and hand over to the University the whole of the ruins of Godstow Nunnery. Anyone who looked at the pictures of Godstow as it was 200 years ago—published in the local illustrated paper—and saw how much was lost to Oxford by want of foresight, could not fail to be shocked.

An Ancient Chantry.

A thirteenth or early fourteenth-century building has just been discovered at Gravesend. It is part of what was known as New Tavern Fort, and formed part of the Gravesend Blockhouse of the sixteenth century, which shared with Tilbury Fort, on the other side of the River Thames, the responsibilities of the protection of London from the raids of the Dutch and French. This ancient Chantry of Milton was lost sight of for nearly 200 years, and at some period, probably in the eighteenth century, the three-foot walls were covered in with bricks, and this fact probably helped to preserve the great hall in its present state. The building is now disused except that a part of the lower portion is utilised for stores. The Gravesend Public Library Committee is approaching the War Office with a view to arrangements for the preservation and suitable use of the hall.

HOUSING.

We have received the following from Mr. John E. Yerbury, chairman of Tenant Co-operators, Ltd. We do not necessarily agree with all the opinions expressed:—:

Having spent many hours in the study of Major Harry Barnes's book on Housing, I have come to the conclusion that it is a clear statement of the present position, and that it contains all the essential data necessary to arrive at a final decision with regard to immediate action.

(1) Major Barnes's supreme test of the capacity of private enterprise in the past is the fact that surplus families increased from 320,000 in 1801 to 900,000 in 1911.

(2) If the failure of the past is to be converted to success during the present decade, then 1,200,000 houses must be provided by 1931. The whole of the labour available at present could only produce 700,000 houses; under normal conditions, only one-tenth of these would be occupied upon housing. Unassisted private enterprise cannot provide the houses required.

(3) The housing problem was not created by the war; only made worse. Private enterprise never has, and never will, provide houses for the poorest paid worker, unless wages increase to such a point that the poorest paid can pay an economic rent.

(4) Overcrowding is not a question of shortage of houses, but of the incapacity of large numbers to pay for proper accommodation.

Major Barnes's statement of the facts will be very wholesome reading to those who indiscriminately condemn, on the one hand, the landlord, land jobber, speculating builder and investor; and, on the other hand, labour and trade unions. Chapter XXVII is a valuable corrective. The remarks on the Finance Act of 1909-10 are also worthy of note.

The unexaggerated statement of the facts clearly shows that the three main factors in housing—land, material and labour—are each and all under the control of powerful organisations, whose interest it is to limit supply and raise cost. Land counts for something; material more; labour most. Personally, I feel, and I think this is Major Barnes's opinion on the whole, that the Land Acquisition Act, 1919, has practically given all the powers necessary with regard to land required for housing, and we are not concerned with other questions than housing for the moment.

It is to be hoped that the Government will obtain guarantees with regard to material and labour; but should it fail I think the whole facts should be clearly stated to the public. The force of public opinion must in the end make itself felt if the facts are given; and in my view would be sufficient to break rings, or trusts, in material, and to prevent restriction of output both in material and in labour.

In this connection the author's reference to the inter-relationship between industries is important, and it is this which adds to the serious responsibility of labour as a whole.

Major Barnes gives tables of the factors in cost, which I think may be accepted as proven facts:—

Land	6.6	
Roads and sewers	13.3	
Material ...	39.9	
Labour	26.6	
Other charges ...	3.3	
Profit	9.9	
	99.6	
	4	omitted dimensions to 4th place in calculations.
	100.0	

If it be remembered that labour represents about 50 per cent. of the cost of material it will be seen that it is to labour we must look for our greatest reduction in cost. And this can be given by increase in output, to the benefit of many of the workers who must be suffering from atrophy of the muscles through want of exercise, if one may judge from the way they work.

It cannot be possible to reduce the profit very much, nor the land and development charges, and such reductions as may be made will only amount to a small percentage of the total cost. It is, therefore, to material and labour that one has to turn for savings in cost; and I am inclined to think that 10 per cent. to 15 per cent. reduction might be made in cost of material if it were made quite plain that new sources of supply would be opened under the Trade Facilities Act unless the Government received guarantees against profiteering by rings, trusts, and combines. I am quite convinced, in my own mind, that with an assurance against unemployment, under conditions which would give the worker an adequate interest in increased profits, labour would readily and willingly increase output by 25 per cent. to 50 per cent.

The Minister of Health is negotiating with employers and operatives with regard to methods of increased employment, and one may hope that a scheme will be devised for obtaining a sufficient number of men to complete our housing requirements without interference with other branches of the building industry; with good will on all sides and public support for a Government guarantee there should not be any difficulty in this respect.

The numbers employed in the building trade had fallen by over 200,000 before the war. Wages increased, output decreased, and profit disappeared until building small houses became not speculative, but certain loss. Of course, the speculating builder ceased work, and the building trade began to lose its place in the industrial world as the second largest employer of labour.

Major Barnes gives an exhaustive summary and tables showing clearly the factors in rent, *i.e.*, (1) interest on cost, (2) maintenance; (3) insurance; (4) management; (5) empties; (6) loss on rent; (7) sinking fund; (8) rates.

1, 2 and 8 are the important factors, and it is for the provisions of finance at a low rate of interest that I have constantly pleaded in your columns, and have pointed out at the same time that rating reform (long overdue) is an essential to housing reform.

I do not think either Major Barnes or the National Housing Council allow sufficient for maintenance, which cannot be safely taken at less than 15 per cent. on the gross economic, or commercial, rent; viz., rent that gives fair profit to all legitimately interested in the provision of houses. Nor do I think the charge made in the tables given by Major Barnes as the rates factor is sufficient; the tables take as the basis of rateable value, not the "economic" rent, but the "estimated actual rent," and upon that figure charge rates at 10s. in the £, and if rating authorities assess on "actual" instead of "economic" rent they will be departing from the general practice objected to when speaking of total remission of rates. Major Barnes says that rent paid is the basis of rates; but this is only so if the rent paid is the real commercial rental of the premises; the man who pays less than a fair and proper rent cannot claim to pay rates on such rental; he is assessed on fair and reasonable rent.

I agree with Major Barnes's figure of 25 per cent. of rent as a working figure to estimate rates; but it must be 25 per cent. of gross commercial, or economic, rent, and not of an estimated rent to be charged to the poorest tenants having regard to their capacity to pay.

I find myself in general agreement with the views expressed by Major Barnes, but cannot subscribe to all his *obiter dicta*; for instance, I do not agree that "it is impossible to get people to regard the spending of other people's money as they regard their own." "There will always be waste in spending public monies."

There are plenty of people who are much more careful about the expenditure of other people's money than of their own; and many consider the waste of public money one of the worst forms of robbery, and impossible in a real patriot. Of such should be the Kingdom of Civil Servants.

With the second of Major Barnes's main conclusions, everyone who has taken any interest in the subject must agree. "Unless we make most vigorous effort, at the end of the present decade the position will be worse than in 1921." To my mind that is quite certain, without any shadow of doubt. Major Barnes's first main conclusion makes one think; I am not sure that I agree, but I am quite certain that unless something is done in the immediate future I shall be forced to accept that conclusion, as one does the premises.

I have from time to time in your columns and others stated a case, a remedy which I think might prevent the acceptance of Major Barnes's conclusion "that housing of the working classes has definitely passed into the same political category as education, old age pensions, and insurance."

I see two ways out of this position:—

(1) There must be a minimum wage fixed in every district which shall have such relationship to rent so that every worker will be in the position to pay an economic rent.

(2) Proper houses must be given at rentals within the means of the worker, that is (say) not more than one-fifth of his wages; (I think one-sixth is a fairer figure).

"The maintenance of the worker in a sufficient standard of life is as much a part of the cost of production as the maintenance of plant." My theory is that, with rating reform carried out, private enterprise could and would provide houses for the best paid worker, but not for the poorest paid worker. The Minister, therefore, should concentrate particularly upon the provision of, say, 250,000 houses, to be let at the lowest rental possible by public utility societies, or other means under special legislation.

If all charges were removed from rates which are not purely local a very great reduction would be made in inclusive rents. If loans were made at 3 per cent., repayable over a period of 100 years (from a fund raised at 5 per cent., repaid in 50 years), the loss would be £23 per annum for 50 years, with a gain of £31 per annum for a further 50 years. Upon every £1,000 spent (or say about £10 per annum per house), the "Chamberlain" scheme gives £12 12s. without the future compensation.

I anticipate that rating reform will reduce inclusive rents by 12½ per cent. Reduction in cost and increase in output will lower total cost by 15 per cent. and the combination of lower capital expenditure, etc., and saving on "outgoings" will enable houses to be provided to let at 7s. and 8s. per week. The local authorities should be asked to provide roads and sewers as their contribution to housing the wage earner of £2 per week and under. The revival of the Building Trades Parliament and a return to the spirit of 1919 would lead to permanent stability in the industry.

Building in America.

The New York Trust Co., in a pamphlet recently issued, state it is perfectly obvious the large volume of building in the past two years has made up the greater part of the post-war shortage. Taking the country as a whole, however, there is evidence that building requirements are still so large that the outlook is for at least another year of record building. The unprecedented volume of building construction reached its peak in 1923, with an estimated total expenditure for all types of buildings of almost £1,200,000,000.

THE WEEK IN PARLIAMENT.

WESTMINSTER, *Wednesday.*

The Subsidy.

Mr. A. Greenwood, Parliamentary Secretary to the Ministry of Health, informed Sir P. Sassoon that in cases in which the Minister was satisfied that builders, on the faith of assurances given by or on behalf of local authorities, had proceeded with building in anticipation of the approval of the local authorities' scheme for assisting private enterprise, the equivalent of the Government grant under the 1923 Act would be paid in respect of houses which would otherwise be eligible for assistance.

Wartime Buildings.

Mr. Jowett, First Commissioner of Works, informed Sir H. Brittain that the only war time buildings remaining in the Royal Parks were the aircraft buildings in Regent's Park and the Hospital in Richmond Park. Tenders were about to be invited for the demolition of the former, and arrangements were in progress whereby it was hoped the latter would be vacated in September, when steps would be taken to remove the buildings.

Office of Works Schemes.

Mr. Jowett, First Commissioner of Works, informed Lieut.-Commander Kenworthy that the average cost of the 5,178 houses built by the Office of Works was approximately £836, but many of these houses were constructed when wages and building materials prices were at peak level; the average cost of those now under construction was estimated to work out at from £400 to £450. These figures included the cost of roads, paths, sewers, and fencing, and every charge with the exception of the cost of the land. The types varied from flats consisting of living room, scullery and one bedroom, to houses consisting of living room, scullery, parlour and four bedrooms, with bathroom, &c. The number of houses to the acre varied from 10 to 12. Approximately 300 men were engaged on the houses now under construction. The whole of this labour was employed by contractors and not by the Office of Works. The building of further houses depended on the general housing policy of the Government, which was at present under consideration.

Demand for Bricks.

Major R. Williams asked the Minister whether in view of the demand for bricks which would arise when houses began to be built in larger numbers, and in view of the desirability of creating employment in the brick-making trade, he would consider the giving of assistance to companies engaged in brick-making to enable them materially to increase their output.

Mr. Wheatley said he was hopeful that the demand for bricks would be met by an increase of output by the industry without recourse to special measures on the part of the Government.

Exchequer Deficits.

Mr. Wheatley informed Mr. Black that it was estimated that on the basis of the present rents and charges the deficit to be made good by the Exchequer in respect of houses erected in England and Wales under the provisions of the Housing and Town-Planning Act, 1919, would be approximately £7,700,000 per annum. The deficit would continue for 60 years, but when the loans raised for roads and sewers were repaid at the end of 20 and 30 years respectively, a reduction in the annual sum would be effected. The total amount paid in respect of lump sum subsidies to private builders under the Housing (Additional Powers) Act, 1919, was £9,498,000. No further liability arose in respect of these houses. The liability of the Exchequer for houses erected to January 31 last under the terms of the Housing Act, 1923, was £28,000 per annum for 20 years.

Guild Contracts.

In answer to Sir K. Wood, who asked whether any housing contracts had been entrusted to the National Building Guild, Ltd., Mr. Greenwood said that the Minister had no knowledge of any housing contracts having been entrusted to the society in question.

Building Plans.

Mr. Hannon asked the Minister of Labour whether he would reconsider his decision that the statistics of approved building plans should in future be published only quarterly.

Mr. T. Shaw said, in view of the limited space available in the *Labour Gazette* it had been decided that the detailed figures relating to the building plans in each of various districts should in future be given only at quarterly intervals. The totals for all districts for which information was obtained, sub-divided to show various categories of buildings separately, were still, however, being published each month. He should be prepared to reconsider the question as regarded the district figures if he received evidence of sufficient demand to justify the expense of their monthly publication.

ROMAN FAMILY LIFE.

SIR BANISTER FLETCHER lectured recently on this subject at the Central School of Arts and Crafts. He described the Roman circular temples, which, he said, were of peculiar interest to the whole Christian world as prototypes of the first Christian baptisteries, just as the Roman basilicas or courts of justice were probably of the early Christian churches. These were among the many instances in architectural evolution in which Christian forms were based on pagan originals, and helped them to realise that architectural styles were not divided into watertight compartments, but were evolved from one another, according to the changing needs of civilisation.

Of all the circular temples in Rome the little Temple of Vesta had the most attraction for English people, as the symbol of that united family life which the old Romans, like the modern English, regarded as the unit of the State. In its simplicity of plan, with its central altar-fire, it stood in the Forum Romanum as the centre of civic life, as a reminder of the sacredness of the Roman hearth, and its importance was intensified by the consecration of six "vestal virgins" to the service of the goddess. The convent-like building which housed them could still be traced, but of the temple little remained.

Other little circular temples there were, most attractive in their plan and treatment—the Temple of Mater Matuta, in the Forum Boarium, the temple at Tivoli, rising sturdily over the rocky gorge, and that at Baalbek, with its unique external design.

Sir Banister then gave an exhaustive account of the most majestic of all circular buildings in the world, the famous Pantheon at Rome, with its great expanse of dome open in the centre to the winds of heaven. Finally, he described briefly but vividly, the large halls or "basilicas" which, while housing courts of justice, served as rendezvous for business and consultation—the "Royal Exchanges," in fact, of ancient Rome.

BRITISH ARCHITECTS' CONFERENCE

THE annual conference of the Royal Institute of British Architects and its allied societies in the United Kingdom and the Dominions Overseas will take place at Oxford from July 9 to July 12. A preliminary programme is in course of preparation by the Executive Committee under the chairmanship of Mr. Edward P. Warren, F.S.A., President of the Berks, Bucks and Oxon Architectural Association. It is confidently anticipated that a record number of members of the R.I.B.A. and the allied societies in the United Kingdom and in the Dominions Overseas will be present at the meetings, the banquet, the visits, and the excursions which are now being arranged by the Executive Committee. A preliminary programme will be issued at an early date. Ladies will be especially welcomed and it is hoped a large number will be present.

The remarkable popularity of the previous conferences at Liverpool, Cardiff, and Edinburgh, and the attractions offered by Oxford to a gathering of architects, should contribute to ensure a memorable success for the Conference of 1924.

ARCHITECTS' AND BUILDERS' INQUIRY BUREAU.

*** *We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.*

Walls of a Small House.

[REPLY TO J. A. E.]

SIR,—Squared rubble walls 12 in. thick with cavity and inner shell of breeze blocks, or better of 4½ in. brickwork if obtainable in the neighbourhood, should form a thoroughly sound job provided the cavity is well ventilated, which is of the utmost importance.

The base of the wall would be built solid about 1 ft. 9 in. or 1 ft. 10 in. thick, leaving an offset of 3 or 4 ins. upon which the joist of the lower floor can rest, the damp course being first laid over the whole thickness of the wall. The bottom of the cavity must be ventilated with air-bricks into the open air, and the cavity carried right up to the eaves. The inner shell need only be carried up as far as the plate carrying the upper ceiling joists, leaving the cavity open to the roof, which will be quite sufficient to ensure a good draught through the cavity.

A breeze block shell would not be strong enough to bear an intermediate floor, in which case the floor joists would be run through the cavity into the outer wall, and it is a wise plan to coat the ends of such joists with creosote.

"X."

Specification for a House.

SIR,—In the specification for a house in which there is quite a considerable amount of half timber work in oak, the following clauses appear:—

"Oak to be reasonably seasoned, sound building quality. Any shakes, large, loose or dead knots will be rejected."

Some of the scantlings are as large as 12 in. by 5 in., and when they were examined in the shop seemed quite dry and sound. If numerous cracks and small splits begin to appear in the surface a few weeks *after fixing*, what is the position? Brickwork has been fixed in the panels, and it is now a very difficult matter to replace any of the timbers.

The oak is specified to be finished by rubbing with linseed oil only. No nationality of oak was mentioned, and the bulk of it has been done in English. In one or two small places an ugly knot has been removed and covered by a small piece neatly let in, but of course it shows. Can the contractor claim the right to do this?

These are points upon which experience of work in oak would be useful, and if the Bureau deals with such as these it will prove of great advantage to readers. Such a page is more valuable to those in the Building Trade than whole volumes of academic discussions.

"NORTHERN ARCHITECT."

[REPLY.]

The specification appears a little loose, both as to description and wording. "Reasonably" is a term that can be interpreted in many different ways, and post-war practice has been to judge reasonable seasoning in a somewhat less harsh manner than in "the good old days." Since no variety of oak was specified, it was natural to select English as being far and away cheaper, and being the usual choice for external constructional work owing to its unrivalled durable qualities. It is a very difficult matter to obtain English oak in large scantlings that will not develop shakes, but such cracks are not detrimental to its strength nor, in the opinion of many, to its beauty, and it would not be reasonable to reject any that were not of a particularly serious nature. In cutting out certain knots and patching the contractor seems to have taken a great liberty, as a natural knot is less unsightly than the neatest patch, which may in time shrink and drop out. Where such patches are particularly prominent, and provided the contract will stand the delay and disturbance, it would be advisable to have the members affected replaced. It is, of course, better to avoid such disturbance if matters are not too serious, but such things have to be judged on their own merits. M. A.

THE BUILDING TRADE.

ESTIMATING FOR SMALL BUILDERS.

By J. H. BARNS, F.I.O.B.

PAVINGS.

TERRAZZO is the cheapest form of marble flooring or "wall lining" laid *in situ*. This class of work is usually performed by special firms, who charge from about 14s. to 20s. per yd. super for plain work; borders at a small additional cost. The price will depend upon the area to be covered, the size of the marble chippings, and the special colouring matter required for the cement ground or white cement.

Although this work is often performed by specialists it is an advantage for a small builder to be prepared to do a little of this work, particularly in making good after alterations, as it will cost comparatively a large sum for specialists to send many times to perform a small amount of making good to terrazzo.

The following is the approximate cost for a builder by his men to lay terrazzo in reasonable areas, small areas at higher prices:—

— per yd. super terrazzo with white marble chippings and ground in natural colours to floors:

	s.	d.
1 bus. (1 cwt.) ⅜ in. marble chippings, 8s.	8	0
½ bus. Portland cement, 3s... ..	1	6
Labour laying, per yd., 1s. 9d.–2s. 6d.	2	0
Labour, &c., rubbing	4	0
	15	6
Cartage and use of tools, say ..	1	0
	16	6
Profit and oncosts, say 15 per cent.	2	6
	19	0

If the chippings were of larger size or different colours this would increase the cost. If the ground were required for some definite colour, such as green or red, this would need the addition of about 2 lbs. dry (lime) colour per yd., costing 6d. to 1s. per lb. The cost of screeding floor to receive terrazzo would be measured separately.

Yds.

— super cube roman marble mosaic.

The price will depend upon the design of the filling and border. Approximate price for:—

20 yds.	50s. per yd.
40 yds.	46s. per yd.

Larger areas somewhat cheaper.

Marble floors laid complete in say 12 in. by 12 in. squares, black and white, alternately with sanded face—about 36s. per yd.

Ditto, but 12 in. by 12 in. dove and white—about 40s. per yd.

Hopton Wood stone—about same price as above.

DELIVERY OF GOODS.

In many cases the small builder will find it necessary to purchase goods that are urgently required in small quantities, and as he may not be able to wait for the delivery of the goods until the merchants' vans are in his neighbourhood, advantage cannot be taken of the offers of free delivery, but he must arrange for goods to be collected and delivered by a firm of carriers.

It may be asked why trouble to include such times, which may be classed as undefined expenses. There is no special reason except to remind estimators that such charges are occasionally incurred.

The builder should see that the obviously necessary but undefined expenses are included.

The table on this page gives the approximate cartage rates for London area.

Miles up to:	3	4	5	6	7	8	9	10
Weight over—								
28 lbs. & up to 56 lbs. ..	9d. ..	9d. ..	1/2 ..	1/6 ..	1/6 ..	1/10..	1/10..	1/10
56 lbs. to 1 cwt. ..	9d. ..	1/2 ..	1/6 ..	1/10..	1/10..	2/3 ..	2/3 ..	2/3
1 cwt to 1½ cwt. ..	1/6 ..	1/6 ..	1/10..	2/3 ..	2/3 ..	2/8 ..	2/8 ..	2/8
1½ „ 2 „ ..	1/10..	2/– ..	2/2 ..	2/6 ..	2/6 ..	3/– ..	3/– ..	3/–
2 „ 3 „ ..	2/10..	3/– ..	3/2 ..	3/9 ..	3/9 ..	4/– ..	4/6 ..	4/6
3 „ 4 „ ..	3/9 ..	4/– ..	4/3 ..	5/– ..	5/– ..	5/3 ..	6/– ..	6/–
4 „ 5 „ ..	4/8 ..	5/– ..	5/4 ..	6/3 ..	6/3 ..	6/8 ..	7/6 ..	7/6
5 „ 6 „ ..	5/– ..	5/4 ..	5/8 ..	6/8 ..	6/8 ..	7/– ..	8/– ..	8/–
6 „ 7 „ ..	5/8 ..	6/– ..	6/4 ..	7/4 ..	7/8 ..	8/– ..	9/– ..	9/4
7 „ 8 „ ..	6/4 ..	6/8 ..	7/– ..	8/– ..	8/8 ..	9/– ..	10/– ..	10/4
8 „ 9 „ ..	7/– ..	7/4 ..	7/8 ..	8/8 ..	9/4 ..	10/– ..	11/– ..	11/4
9 „ 10 „ ..	7/4 ..	7/8 ..	8/4 ..	9/4 ..	10/– ..	10/8 ..	12/– ..	12/4
10 „ 11 „ ..	7/8 ..	8/– ..	8/8 ..	9/8 ..	10/8 ..	11/4 ..	12/8 ..	13/4
11 „ 12 „ ..	8/– ..	8/4 ..	9/– ..	10/– ..	11/4 ..	12/– ..	13/4 ..	12/–

THE INSTITUTE OF BUILDERS.

Annual Dinner.

MR. F. J. GAYER (President) occupied the chair at the annual dinner of the Institute of Builders, held at the Hotel Victoria, Charing Cross, on February 27. Among the guests present were Mr. H. Adamson, Mr. Dudley Bartlett, Mr. E. J. Brown, Mr. J. A. Brown, Mr. R. B. Chessum, Mr. B. H. Chessum, Mr. W. E. Davis, Mr. Claude Ferrier, Mr. G. Topham Forrest, Mr. P. F. Gleed, Mr. E. Stanley Hall, Mr. Stanley Hamp, Mr. F. Higgs, Mr. E. J. Hill, Major R. J. Holliday, Mr. E. C. Holloway, Mr. H. T. Holloway, Mr. R. E. Holloway, Mr. F. D. Huntingdon, Mr. Ralph Knott, Mr. F. W. Loasby, Mr. W. G. Newton, Mr. E. J. Read, Mr. A. Roome, Mr. S. E. Roome, Major A. D. S. Rice, Mr. F. Shingleton, Major Leslie Shingleton, Mr. Sydney Tatchell, Major A. F. Vigor, Mr. Frank Wall, Mr. A. G. White, Mr. C. Woodward, and Mr. D. C. Workman.

After the loyal toasts had been honoured, Mr. H. Mathews proposed "The Architects and Surveyors." In the course of his remarks he said the builders had no opposition with the architects and surveyors, although, of course, they must occasionally come into conflict when their points of view differed. The building body was composed of architects, surveyors and builders. The three had one single object and only by close co-operation could they get through the work. He would suggest the architect should put himself in the place of the builder, and endeavour to understand the builder's position. They would then, probably, get on even better than they did. In conclusion, he suggested the whole body should unite so that "Charing Cross Bridge Should Go."

In responding for the architects, Mr. E. Stanley Hall said the Architectural Association was anxious to welcome students of all crafts which bore on the subject of beautiful buildings. The Association would be only too glad to help them; and they, in their turn, would help the Association. If architects followed the fashion of going to builders' yards, it might be possible that builders, for their part, might like to learn from architects the basis of architecture and architectural taste.

The total number of students at the Architectural Association (170) was larger than that at any other school in Great Britain. Their one object was to look after the architecture of the next generation. He hoped that architects, builders, and craftsmen would come together and get on friendly terms. In regard to education he was glad to see they were trying to found a chair of Building Science. The Association would be only too glad to help and congratulated them on the step they were taking.

After Mr. Perceval Gleed had responded for the Surveyors, Mr. Roland B. Chessum, in proposing the "Institute of Builders and its President," said their development of recent years was due to the energy and spirit of their respective presidents. The dignity of building could only be preserved by setting a high standard compatible with any other branch of the industry.

Continuing, Mr. Chessum said in 1920 they had 239 members, in 1921 305 members, in 1922 402 members, and in 1923 654 members. He considered this remarkable increase was due to the enthusiasm of such men as their present president.

The President, in response, said although they had not yet a Royal Charter, he hoped in the near future entrance to the Institute of Builders would be by examination. A certain amount of progress had already been made in connection with a Chair of Building, and in order to encourage students the Institute had granted a number of medals to the different trades and centres up and down the country. It was extremely necessary to encourage technical education. The Institute was not concerned with industrial warfare, or, in other words, suicide; but he hoped the Labour Government would convey to the various trade unions the great necessity for the augmentation of the building trade industry.

Ald. G. Brittain then proposed "The Guests," to which Mr. Sydney Tatchell briefly responded.

BRISTOL CLERKS OF WORKS' DINNER.

THE Bristol branch of the National Federation of Clerks of Works and Builders' Foremen's Association held its annual dinner at the Royal Hotel, Bristol, on February 23, with Mr. A. Gardiner in the chair.

Proposing the toast, "Architects, Engineers, and Surveyors," Mr. R. Slaughan said the three professions were professions which clerks of works and builders' foremen could well appreciate.

Mr. W. S. Skinner, in response, said the speaker had alluded to the Tomb of Tutankhamen, and he, the speaker, would like to say a word about the work of the Egyptians, who moved huge slabs of granite great distances and fitted them so close together that to-day a sheet of paper could not be placed between the joints. These slabs were well placed on columns 60 or 70 ft. high simply by man power. It was marvellous.

Mr. C. W. F. Dening said that architects were members of a silent community, who endeavoured to let their buildings speak for them. There were some buildings, even in Bristol, that actually shouted at them.

Mr. C. Willis, submitting "The Builders," said that half the trouble in the trade arose through lack of continuity of employment.

Mr. W. S. Weeks, President-elect of the Master Builders' Association, in response, said apprenticeship was the great hope of the trade, but it was no use for employers to take apprentices unless the builders' foremen, clerks of work, and operatives would teach them and encourage them. Other toasts were "The Bristol Association of Clerks of Works and Builders' Foremen," proposed by the Chairman, "The Chairman" and "The Visitors."

CLERKS OF WORKS' ASSOCIATION.

THE Incorporated Clerks of Works' Assotion held their 41st annual dinner at the King's Hall, Holborn Restaurant, on February 23. Mr. W. A. Forsyth, F.R.I.B.A., presided. Among the visitors present supporting the Chairman were Messrs. W. Woodward, F.R.I.B.A., F. W. Troup, F.R.I.B.A., C. Armitage, F.R.I.B.A., Lieut.-Colonel A. C. Preston, V.D., Alderman W. Peet, Messrs. F. Hall-Jones, M.S.A., Roland Welch, A.R.I.B.A., Clifford Trollope, F. G. Minter, Dudley Bartlett, H. A. Gregory, E. E. Yewen, and Noël Heaton.

After the loyal toasts had been honoured, MR. A. H. TAYLOR proposed "The Architects," and MR. WILLIAM WOODWARD, F.R.I.B.A., responded.

MR. P. J. LUXTON proposed "The Surveyors," and said, although the term surveyor meant all sorts of things and all sorts of people, it was usually understood in their company to mean a quantity surveyor. He was the man whom the building trade generally, and clerks of works in particular, had most to do with in London and the large provincial towns. The building owner to-day who ventured on a large outlay without calling in the assistance of a quantity surveyor would live to regret his folly. It was a big tribute to the profession that in connection with many contracts, involving large sums of money, both the building owner and contractor accepted the decision of the quantity surveyor without question.

MR. A. G. CROSS, whose name was coupled with the toast, also responded.

MR. A. H. CASTLE, in proposing "The Worshipful Company of Carpenters," expressed the Association's gratitude to the Company for allowing them the use of the Hall for their meetings. The Worshipful Company of Carpenters, he said, had always been leaders in the production of well-trained craftsmen, and in later years in the promotion of technical education. In thus attempting to provide the additional skilled men so much wanted in the building industry the Carpenters' Company had well earned the thanks of the whole community.

LIEUT.-COLONEL A. C. PRESTON, V.D., Past Master of the Carpenters' Company, in response, assured them, on behalf of the ancient Company to which he belonged, that they were delighted to give the Association the use of the Hall for their meetings and for the work they did.

MR. A. J. DOREY proposed "The Builders," and, in response, MR. CLIFFORD TROLLOPE said the clerk of works was a great asset to the builder. He helped them through very trying and difficult times, and the builders could not be too thankful for the assistance given them.

The CHAIRMAN proposed the toast of the "Incorporated Clerks of Works Association," and said they must all feel that the position of English building was pre-eminent in the world. There was no country where construction of permanence in building was more understood than in Britain, and that condition was in a large measure due to clerks of works. He would like to thank the committee for circulating their Journal amongst architects. It was of very great assistance and it was invariably interesting. He would appeal to them to help in the promotion of the charitable side of the committee's work. They had an opportunity of subscribing to the benefit and pension fund, and he found this fund was very jealously guarded; it was well supervised and administered, and clerks of works incapacitated by illness, accident or otherwise were helped in times of need.

MR. F. J. PITTS responded, and said the chief object of the dinner was to help the Benevolent Fund. There was one special point he wanted to put before the architects. At the present time an interesting question was being discussed at the meetings of the Association, namely, the question of insuring clerks of works when on a job. Generally speaking, that was never done. It was never thought about. It would be a little item to allow for in the bill of quantities. Members of the Association wanted the architects to consider the question and see if they could not include a small sum in the bill of quantities to insure the clerks of works against accidents. He would like them to think the matter over and put it before the notice of the other members of the Royal Institute.

MR. J. W. GROOM proposed "The Visitors," to which MR. H. A. GREGORY responded.

After MR. W. LAKE had proposed "The Chairman," MR. FORSYTH, responding, said in reference to the insurance of clerks of works, that it was a most important thing, and he would do his best to bring it before the Royal Institute of British Architects.

COMPARISON OF PRICES OF BUILDING MATERIALS, &c.

WE publish a table giving the prices of the principal building materials on March 1, as compared with the price for February 1, 1924.

Material.	Feb. 1, 1924. £ s. d.	Mar. 1, 1924. £ s. d.	Fall. %	Rise. %
Bricks—				
Best Stocks	3 19 0	3 19 0	—	—
Flettons	2 13 3	2 13 3	—	—
Glazed	22 0 0	22 0 0	—	—
Thames Ballast	0 10 6	0 10 6	—	—
Thames Sand	0 15 6	0 15 6	—	—
Shingle (¾ in.)	0 14 0	0 14 0	—	—
Portland Cement	2 18 0	2 18 0	—	—
Ground Blue Lias Lime	2 13 6	2 13 6	—	—
Grey Stone Lime	2 10 9	2 10 9	—	—
Bath Stone	0 2 9½	0 2 9½	—	—
Portland Stone	0 4 4	0 4 4	—	—
Good Sound Building Timber—				
4 in. × 11 in.	34 0 0	34 0 0	—	—
3 in. × 7 in.	26 0 0	26 0 0	—	—
3 in. × 11 in.	34 0 0	34 0 0	—	—
2 in. × 11 in.	34 0 0	34 0 0	—	—
2 in. × 7 in.	26 0 0	26 0 0	—	—
3 in. × 4 in.	24 0 0	24 0 0	—	—
Slates—				
24 in. × 12 in.	37 12 6	37 12 6	—	—
22 in. × 12 in.	34 0 0	34 0 0	—	—
R.S. Joists	13 10 0	13 10 0	—	—
Iron—				
Common Bars	13 10 0	13 10 0	—	—
Mild Steel Bars	12 10 0	12 10 0	—	—
Steel Bars	13 0 0	13 0 0	—	—
Cut Nails	20 10 0	20 10 0	—	—
Sheet Lead	42 10 0	47 10 0	—	11.77
Glass—				
15 oz. Sheet	0 0 3⅜	0 0 3⅜	—	—
21 oz. Sheet	0 0 5	0 0 5	—	—
26 oz. Sheet	0 0 6	0 0 6	—	—
Raw Linseed Oil	0 4 2	0 4 5	—	6.00
Turpentine	0 6 11	0 6 9	2.41	—
Ground English White Lead	57 0 0	62 10 0	—	9.65
White Lead Paint	81 0 0	86 10 0	—	6.79
Red Lead	43 0 0	50 0 0	—	16.28

STEEL CONDUITS AND ELECTRICAL WIRING.

THE British Engineering Standards Association has issued a new revision of the Standard Specification for Steel Conduits for Electric Wiring (B.S. Specification, No. 31), which was first issued in 1906 and revised in 1910. The following modifications have been made to the original standards, which it is interesting to note had been almost universally adopted:—

Two additional diameters have been included, *i.e.*, ½ in. and 2½ in. In the case of conduit having a larger diameter than 1 in., the screw threads have been slightly shortened. In other respects, the specifications for the conduits remain the same, but a comprehensive range of standards for the fittings used with conduits have been included, together with tests to be applied to the materials used in the manufacture of both the conduit and the fittings.

The use of this specification will ensure the supply of a good practical quality of steel conduit and fittings, and the wider its use the greater will be the benefits.

It should be recalled that about three years ago the Government Departments decided to co-ordinate their own specifications for electrical apparatus, so as to make use as far as possible of ordinary good class commercial articles, and for this purpose set up an interdepartmental Committee and made arrangements to secure the assistance of the B.E.S.A. This Committee decided to adopt the British Standard Specification No. 31, and recommended its extension to include a 2½ in. tube with a further addition of detailed standards for fittings. The B.E.S.A. Committee brought together all the British makers of conduits, and after considerable discussion general agreement was reached. The Interdepartmental Committee found that the revised specification would meet all the ordinary Government requirements, which, hitherto, in the absence of a standard specification for the fittings, had, in some cases, been special to each department. This B.E.S.A. Specification, therefore, will set a standard for the makers, the Government Departments, and for all purchasers of good quality conduit, and the more British Standard Conduit and Fittings are demanded, the better for the electrical industry and the public.

Copies of this publication (No. 31, 1923) may be obtained from the B.E.S.A. Publications Dept., 28, Victoria-street, London, S.W. 1. Price, 1s. 2d. post free.

£1,000,000 for Irish Roads.

The Irish Free State has made available £1,000,000 for road improvement throughout the country. The scheme will affect every county council and urban district council in the Free State, and £100,000 will be allocated to Co. Cork. Preference will be given in the workmen engaged to suitable persons who have served in the Free State Army.

LABOUR IN THE BUILDING INDUSTRY.

A REPORT on the supply of skilled labour in the building industry has been issued by the National Housing and Town-Planning Council and signed by the Chairman of the Council (Mr. F. M. Elgood) and the Secretary (Mr. Henry R. Aldridge), on behalf of the Committee. From this report we take the following abstracts:

In the following table the numbers of skilled craftsmen engaged in Great Britain in the building industry in 1901, 1911, 1914 (July), 1923 (February), 1924 (January) are clearly set out.

	1901.	1911.	July, 1914.	Feb., 1923.	Jan., 1924.
Bricklayers	120,288	106,193	73,671	58,540	57,170
Masons	97,398	65,155	34,381	21,490	22,270
Carpenters and Joiners	306,355	238,425	126,345	123,820	125,010
Slaters	16,111	13,909	4,154	5,190	5,210
Plasterers	36,238	28,784	19,479	16,290	16,070
Plumbers	76,065	76,511	33,009	33,090	34,440
Painters	176,007	200,115	132,479	109,800	106,860
	828,462	729,092	483,518	367,220	369,030

The main factors responsible for the decline in the numbers of skilled men in the industry are as follows:

(1) The first of the causes of the shortage is to be found in the fact that for many years past the number of apprentices flowing into the industry has been insufficient in volume to replace the depletions in the industry.

The reasons for the shortage of apprentices are three-fold:

(*a*) The unwillingness of parents to place their children in an industry which does not offer steadiness of employment at a good standard wage, and the difference in general attractiveness of careers opening out in other industries.

(*b*) The absence of any kind of responsibility—falling on the employer—for securing and training apprentices.

(*c*) The entire cessation of apprenticeship during the war.

Apprentices.

With regard to (*a*) it is beyond question that in the years preceding the war the industry was hard hit by severe crises of unemployment which produced much suffering amongst those engaged in it. The knowledge of this suffering without doubt acted as a potent factor in deterring careful parents from placing their children as apprentices to the industry. To these periods of unemployment must be added the varying nature of the occupation and frequent seasonal unemployment. The industry has suffered, and continues to suffer, as a result of the loss of time due to inclemency of the weather, especially at certain periods of the year. It is to be regretted that no workable solution has yet been found for "wet time."

The Committee are of the opinion that many parents have preferred to send their children into industries which offered greater steadiness of employment at wages which, taking the whole year round, were substantially higher than those likely to be secured in the building industry.

With regard to (*b*), the evidence obtained by the Committee places beyond question the fact that the sense of responsibility for securing and training apprentices clearly felt by large numbers of employers in the past has well nigh disappeared in some parts of the country. The Committee are informed, for example, that many large employers in the London area are unwilling to take apprentices. But whether the cause be that of unwillingness or indifference on the part of parents, or the absence of a sense of responsibility amongst employers, the result is the same. The proper recruitment of the industry has been neglected.

In reference to (*c*), with the virtual cessation of building during the war there was scarcely a single lad apprenticed during a period of four years.

Skilled Labour.

(2) There has been a substantial depletion in the number of skilled craftsmen arising from:—

(*a*) Migration to other industries in times of depression in the pre-war period.

(*b*) Losses to the industry during the war period as a result of death or migration to other industries; and

(*c*) Emigration to other countries, both before the war and since the war.

With regard to (*a*), the evidence submitted to the Committee places beyond question the fact that during the period of great building depression between 1906 and 1908 the number of men compelled to leave the industry as a result of hunger was substantial. Many found it better to secure constant work at unskilled or semi-skilled occupations than to continue in an industry which seemed to have no use for them as far as the prospect of earning a steady living wage was concerned.

From time to time public criticism is expressed in strong terms concerning the attitude of the men in the industry towards dilution. But it must in justice be recognised that in only too many cases the issue presents itself to them not as one of abstract argument, but of bitter memory of suffering experienced in the past by those near and dear to them throughout a time when it seemed to be a matter of national indifference whether they became chargeable to poor relief or not.

Concerning (*b*), the Committee find on enquiry that in one industry in particular there were great losses during the war period.

With regard to (*c*), the Committee find that in the period preceding the war there was a steady stream of emigration to other countries. Since the war—and more especially during the last two years—the outward stream of emigration has begun to flow again.

The Committee learn that 921 out of 4,000 carpenters (including ships' carpenters) left Glasgow in 1923 for the United States of America, where attractive high wages can be readily gained by skilled men. At the present juncture large numbers of bricklayers are also leaving the country.

Skilled Labour and Housing.

III.—The number of skilled craftsmen needed to execute a National housing policy.

In considering the number of operatives needed to build 200,000 houses a year two points emerge, viz.:—

(*a*) The number of skilled men necessary to build a stated number of houses; and

(*b*) The proportion of the men in the industry needed for the performance of building operations other than those relating to the construction of small houses.

With regard to (*a*) two sets of estimates have been considered by the Committee.

The first of the sets of estimates has been supplied by Mr. Platt, the Housing Director to the Manchester City Council. It is understood that his figures represent actual experience relative to the number of men occupied in building houses on one of the Manchester Corporation building schemes:—

THE NUMBER OF SKILLED CRAFTSMEN NEEDED TO BUILD 200,000 HOUSES PER YEAR.

Bricklayers and Masons	43,600
Carpenters and Joiners	41,200
Slaters	4,120
Plasterers	15,680
Plumbers and Glaziers	7,940
Painters	15,200
	127,740

The second set of estimates relates to the number of hours normally worked by all classes of labour in the construction of a small house. It is understood that an analysis of a large number of housing schemes carried into effect during the past three years reveals the fact that from 1,600 to 2,500 hours of labour per house represents the general range of time taken. (These figures include the hours worked by labourers as well as by skilled men.)

The Committee submit the following recommendations:—

(1) The Government should be asked to make a clear declaration of determination to carry into effect a long-run housing policy.

It will be of value in this relation to point out that the securing of an adequate number of apprentices will largely depend on:—

(*a*) The eagerness of parents to apprentice their children to the industry; and

(*b*) The goodwill of employers and operatives alike.

(2) The number of apprentices in training should be brought up to the level of a number mutually agreed upon between employers and operatives.

The following recommendations are made:—

(*a*) All builders engaged on public work, either national or local, or engaged in building houses in respect of which subsidies are given should be required, as a condition of their contract or the receipt of the subsidy, to train a specified proportion of apprentices.

(*b*) A Central Committee of Employers and Operatives should be set up and be charged with the definite duties of arranging for the recruitment of apprentices and the provision of adequate facilities for their training.

With a view to securing the transference of apprentices when work falls short or when employers may not be able to give apprentices a complete course of training it is suggested that the indentures should be between the parents on the one hand and the local district committee on the other.

(*c*) New apprenticeship schemes, the operation of which shall be limited for a certain agreed period of time, should be formed with, as their definite object:

(1) the placing aside of the present ratio of apprentices to craftsmen in favour of a new ratio to be mutually agreed upon;

(2) the training of a certain number of apprentices (whose age is greater than the present agreed age of 16) for a shortened period of not less than three or four years, the amounts to be paid by the employers to these older apprentices to be supplemented by grants made by the State;

(3) the modification of certain restrictions at present in operation governing the number of apprentices allowed to be in training under any one employer.

Recommendation (2) is put forward on the definite plea that a substantial injustice will be suffered by many of those who were of the apprentice stage during the Great War and who either volunteered or were drafted into the Army, or served in munition work during this period. It is argued that there has been quite enough suffering arising out of the war without condemning men, who would otherwise be skilled craftsmen, to remain in the position of unskilled labourers for the whole of their lives.

(*d*) Sympathetic and constructive consideration should be given to the valuable suggestion that the crafts of the building industry should be regarded as falling into four great groups or divisions, and that provision should be made for the concentration of the energy of the craftsmen coming within the limits of these four groups on the performance of work in regard to which delays in execution must seriously prejudice the activities of craftsmen in other groups.

The craftsmen of the industry fall within the following groups:—

(1) carpenters and joiners,
(2) plumbers and heating engineers,
(3) bricklayers and plasterers, masons and slaters,
(4) painters and glaziers.

With regard to group (3) it may be pointed out that already the bricklayers and masons belong to one union. There is also a strong feeling throughout the industry as to the desirability of setting up a Trowel Trade Union. In support of this proposal it may be urged with much force that in the Eastern Counties the bricklayer, in accordance with the custom of the area, does plastering work. It may further be pointed out that if bricklayers were set at plastering work it would be possible for employers in wet weather to absorb their labour in the plastering of rooms contained in houses which have already been roofed in. In submitting this suggestion the Committee clearly recognise that the work of plastering can best be done by the man who has specialised at plastering. The same truth applies in the case of the other crafts included in this group. But the Committee hold that it is clearly desirable that when the development of a housing scheme is held back because of the special shortage of one class of craftsmen included in this group, there should be a concentration of the energy of other members of the trowel trades group (even if they were less skilled in the craft which was specially short) on the task of clearing away arrears of work which, if left to accumulate, must involve the throwing of other craftsmen out of employment as well as delaying the completion of houses so greatly needed by the community.

(*e*) A system of insurance on a contributory basis or otherwise, should be set up and should provide that time lost in inclement weather should be paid for, if not in full, at least in part.

(*f*) Various improvements should be made in the status of the craftsmen and in the conditions of employment with the definite object of making the industry more attractive.

PATENTS.

APPLICATIONS PUBLISHED.*

206,380.—Waygood-Otis, Ltd., and T. H. J. Simmons: Lifts and hoists.

206,396.—J. B. Dring: Folding boxes.

206,400.—J. Birago.—Tables.

206,404.—R. Kuroshima: Folding-ladders.

206,407.—Cowans, Sheldon & Co., Ltd., and J. W. Branston: Jib-cranes.

206,414.—A. W. Nelson: Means for securing sash cords to sashes.

202,980.—O. Hartmann: Ceiling of slabs.

205,096.—Soc. Anon. la Ceramique Nationale: Apparatus for distributing the body material in the automatic manufacture of tiles.

206,894.—T. S. McCallum and Calto Co. Ltd.: Fire-places.

206,903.—C. R. Allensby and W. L. Clarke: Ovens and hot-cupboards.

206,929.—F. Bateman: Roads or the like and blocks therefor.

206,935.—W. C. Rankin: Stays for casement windows.

207,009.—W. Jones: Roof gutters.

207,020.—H. Duckworth, R. B. Duckworth and W. Duckworth: Folding-desks.

207,056.—E. Tonks & Sons, Ltd., and A. C. Tonks: Fastenings of the type known as fanlight fastenings.

207,084.—W. F. Owsley: Apparatus for levelling and surfacing plastic concrete paving.

207,110.—D. Palmer-Jones: Means or devices for connecting together members of permanent or temporary structures, buildings and scaffolding.

207,111.—E. Beckett: Concrete slab walls.

207,119.—J. C. Eccleston: Window fastener.

207,130.—E. W. Moss (J. G. Surtees): Fastening means for doors, gates and casement windows.

207,132.—D. Palmer-Jones and Scaffolding (Great Britain), Ltd.: Scaffolding or the like temporary erections.

207,209.—E. Lytton: Paints and varnishes.

207,218.—H. Howard: Wall brackets.

207,238.—E. C. Freegard: Composition of matter to be used for the removal of paint.

*All these applications are now in the stage in which opposition to the grant of Patents upon them may be made.

THE RATING AND VALUATION BILL.

THE Report of the Association of British Chambers of Commerce has now been issued on the draft Rating and Valuation Bill, and after expressing approval of the course adopted of submitting a draft Bill for the consideration and comments of those whose interests are concerned, and observing that such a course must result in advantage to the community and an economy of time to the Government, it expresses approval in the main with the proposals as stated in Clause 2 of the Memorandum, and particularly as regards—(1) The simplification of the present rating system, (2) consolidation of rates where not already existing, (3) a more equitable method as to precepts, (4) a quinquennial valuation, (5) a single valuation for rates and taxes, (6) greater uniformity in valuation, (7) making the assessment committees more representative of different interests. Clause 2 of the Memorandum referred to above is entirely vague in its terms, outlining the main objects of the proposals contained in the Bill as follows: "The main objects underlying these proposals are the simplification and improvement of the administrative system of machinery of rating and valuation, and the removal of various anomalies inherent in the present system; the substitution of a single valuation in the place of the separate valuations at present required for purposes of rating and taxation; the promotion of uniformity of valuation as a condition precedent to any comprehensive review of the system of local taxation and exchequer grants."

Thus far, therefore, the report is not very specific, but it is to be noted that it accepts the principle of a single valuation for rates and taxes, and thus there seems some agreement in opinion on this point amongst the associations which have issued reports, but numerous suggestions as to how it could better be put in practice. The Landowners' Association objected to the common assessment in so far as it involved employment of officials of the Inland Revenue by a rating authority not an assessment committee (*The Builder*, January 18), and the report of the London County Council Committees objected to the gross value being made conclusive for the assessment of income tax without important modifications (see *The Builder*, February 8). The Poor Law Unions Association seemed tacitly to accept the principle (see *The Builder*, December 14, 1923).

In the report under consideration the agreement with the main objects of the Bill is at present only as above expressed in general terms; it is, however, only a preliminary report, and detailed criticism is to follow, but it is noticeable that the report expresses doubts whether the economies claimed in the Memorandum in Clause 3 in connection with the proposals outlined in Clause 2 will, in fact, be effected, especially if a new central authority has to be created.

With regard to rating, the report approves in principle the transfer of these functions to the various rating authorities as proposed in the Bill, but considers that the position of those local authorities which have already adopted similar steps should have different treatment from that suggested. As regards valuation, the report considers it questionable whether complete uniformity would produce equitable results. The report strongly disapproves of the proposed creation of a central valuation authority, on the grounds that it is (1) unnecessary, there being no justification for the abrogation of the powers of local authorities generally, who are better able to judge of local conditions; and (2) uneconomical, involving the creation of a new department and great expense and inconvenience to all concerned, but as the association recognises that railways, canals, and such parts of public utility works as pass through more than one rating area call for special treatment, it suggests: (1) that certain general principles should be laid down for the guidance of the local authorities, and (2) in lieu of the general system of appeal provided for in the Bill a special appeal body should be set up to deal with appeals against the valuation of such special properties. The report states in connection with this suggestion that the Association considers that no other departure from the general scheme of the Bill is necessary in order to produce the desired result, and that in the course of a short time it will be found that by means of these regulations and the decisions of the appeal body a uniform system of procedure will prevail throughout the country. This is a suggestion which appears to us to have much to recommend it.

It is important to note that the report adds that whatever decision may be arrived at on this question, the Association voices the unanimous feelings of the Chambers of Commerce and other important bodies that Sub-clause (i) of Sub-clause (1) of Clause 28 should be deleted from the Bill. That Sub-clause provides that "any other properties, or properties of any other class which the Minister may from time to time direct to be treated as special properties" shall be deemed to be special properties. In this connection it may also be observed that the report considers other powers conferred on the Minister by the draft Bill are too vague and extensive, and would enable him to modify and even alter the intention of Parliament, and it points out that they are contrary to the policy of decentralisation. The report also considers that it is undesirable to extend the principle of the direct rating of owners instead of occupiers.

This is only a brief summary of some of the points dealt with in this report, and, as we have said, it is stated that detailed suggestions and criticisms will be submitted later. It may have been noted that the present Prime Minister, in his interesting speech outlining the policy of the Government, stated that the present Government intended to try and deal with the subject of rating, not only agricultural rating, and that Government after Government had promised to deal with this subject, but had failed to do so, but that he hoped this Government would have time to produce its scheme for readjustment and reform in the present Parliament. It is noticeable that in this statement no mention is made of the draft Bill submitted to the country by the late Government for consideration, and which has already received such careful investigation at the hands of such important organisations. A statement on the attitude of the Government towards this Bill should be made as soon as possible, as those bodies who are giving it careful consideration and making practical suggestions for its amendment will desire to know whether in the main it is to be proceeded with or whether the Government intends to scrap it.

Industry and the Schools.

Mr. J. Murrey, National Federation of Building Trade Operatives, and Mr. R. L. Roberts, ex-Chairman of London Master Builders' Association, have accepted invitations to serve on the Central Advisory Council which the Minister of Labour is appointing in the endeavour to secure that the entrance of juveniles into industry is made under the most favourable conditions.

Building Trade Wages.

A special meeting of the leaders of both sides of the building industry was held recently in London to consider an application by the men which would have the effect of increasing the present rate of wages by 2d. an hour. At the close the following statement was issued:—

"The National Wages and Conditions Council met to-day to consider an application by the operatives for an interim variation amendment under Clause 14 (c) of the rates of the Council. After prolonged discussion the parties failed to reach agreement. Further constitutional procedure is taking place, and the matter will be considered by the executives of the adherent bodies at an early date."

THE IDEAL HOME EXHIBITION.

On February 28 the Ideal Home Exhibition was opened by the Duchess of York.

We have now so far advanced in our study of the ideal home that we are not at all surprised to find a number of full-sized cottage houses fully furnished in an "ideal home" exhibition. In some respects, we find an advance in the quality of furnishings shown, and we can imagine that the interesting full-size buildings at the present exhibition at Olympia convey a decided over-statement of what is likely to be the appearance of such buildings when they come into the possession of those who usually occupy houses of that size. The admirable examples of old furniture, such as the tiny clock on a mantelshelf at £20, and the small gate-leg table at a similar cost, are only for the fortunate few who can indulge in luxuries. Furnished with the simple austerity which limited cost necessitates, these cottages would lose some of their charm, though we could all afford to build our fire-places in a pleasanter way than the rough brick affairs which go with some of these fine old furnishing. We still, however, find many admirers of the old type of timber-framed buildings, such as Messrs. Williams & Son, of Oxted, have reproduced for us with an admirable effect of tone and colour, built up in good architectural character; and we may modify our ardour with a more modified adoption of old styles, as in the ideal home set forth by Messrs. Y. J. Lovell & Sons. Messrs. Mead's cottage is not a very happily proportioned exterior, but inside it is very attractive and contains some very admirable furnishing. One of the old half-timber cottages suggests great age and one can almost feel a thrill of age and damp in passing within its gloomy walls. Other firms show how one may keep a cottage bright and cheerful at no ruinous cost, but exhibits such as these at Olympia do not suggest to the professional mind that complete happiness and satisfaction can be standardised in style, shape and furnishing with a completely satisfactory result. Nowhere, we suppose, does the skill of a really able architect prove itself so valuable as in the handling of a small house or cottage, and probably in no part of his practice are his services so begrudged. Besides the allurement of fully furnished cottages, we find again an even greater attraction in the gardens of spring flowers produced in an excellent way by professional firms. Such an array of beautiful spring flowers is well worth seeing, and one can imagine what a splendid "draw" two or three acres of a garden like that provided would prove at the Empire Exhibition. The general effect of such an exhibition as that at Olympia is much better now than it used to be, and the draping of the roof with orange-tinted valeria produces a unity of effect which is very effective, relieved as it is with tones of blue. We do not like the silvered staircase and gilded bay shrubs, and we think the main avenue of the exhibition might easily be made a telling feature; but some day, perhaps, we shall get a really satisfactory result, such as these exhibitions suggest. Many exhibits of great excellence are to be found, such as the furnishing stands of Messrs. Heal & Son, John Barker & Co., Burnet's, Storey's, &c. In sanitary goods, such exhibits as Geo. Jennings are remarkably good; and we have never seen a more admirable exhibit as regards quality and taste than that by Bratt, Colbran & Co., of their heaped fire, and this certainly cannot be said of all such exhibits. Smith, Wellstood & Co., "The Devon" Fire, the "Interoven," and others, deserve special notice.

We give below descriptions of some of the stands:—

DECORATION AND SANITATION.

George Jennings, Ltd.

This interesting exhibit includes an example of a bathroom with fittings, designed to give comfort and efficiency, with rubber flooring (tiled in blue and white), being warm and soft to the feet. The walls are of imitation marble in white, panelled in blue, a patent composition, very effective and easily fixed, which can be supplied in any quantity or colour. The bath is in the centre of the room and is cast-iron, white porcelain enamelled inside and out. Lavatory basin and dressing table are of Venato statuary marble. Other types of baths include a new pattern white porcelain enamelled inside and out, in one piece. Labour saving fittings are represented by baths and lavatory basins fitted with china covered supply valves and special white metal alloy valves, reducing the labour of cleaning to a minimum.

G. D. Peters & Co., Ltd.

The exhibition of this firm comprises three rooms, dining room, bath room and office, all lined with "Sundeala" boards. This material is a satisfactory substitute for lath and plaster, and is used on walls, ceilings, partitions, &c. In addition to the supply of "Sundeala" sheets in plain form a number of embossed patterns are shown fixed on this Stand. Changes in temperature do not affect this type of mill-board. The sheets are 11 ft. by 4 ft. 6 in. and 8 ft. by 4 ft. There are three qualities and several thicknesses.

Associated Crafts, Ltd.

"Dekart" is a material that bears a very close resemblance to oak or any other hard-wood. Its initial cost is considerably less than that of the materials it is intended to supersede, being about half that of real oak. The firm undertake to carry out architects' own designs and to submit suggested schemes of treatment. "Dekart" plaster sheets, tiles and mantels are also exhibited. "Dekart," it is interesting to note, is a British product, manufactured in London entirely by British workpeople.

Ferodo, Ltd.

This firm show a full range of samples of their well-known fabric stair treads, with several models showing methods of fixing nosings and treads to various types of stairs. These treads are specially woven from cotton and treated by a process which makes them exceedingly durable and long wearing. They are supplied in various colours, which are permanent, and the material retains its non-slipping qualities and good appearance, however well worn. Samples are also shown of Feroleum nosings and flooring material, which is made from fine Para rubber and Ferodo fibre, both corrugated and plain, in various pleasing colours. Feroleum is washable, hygienic, non-slipping and long wearing.

Fortis Reinforced Concrete Safe Co., Ltd.

A new development in safe construction is in the use of reinforced concrete, and two small Fortis safes are shown of this material. They are absolutely fire-proof, and will resist the acetylene activities of the modern burglar.

LABOUR-SAVING SECTION.

G. N. Haden & Sons, Ltd.

This interesting exhibit comprises four "Eco-Dry" closets. These contain gas and electrically-heated drying cabinets. They are specially made to deal with drying in private residences, and the larger ones for drying in schools, colleges, or in connection with recreation buildings. The air is heated either by gas or electricity, and the current of air is induced by the same means, or, in special circumstances, with small fans. There is no smell or fumes in connection with these cabinets, and the drying can be done quickly and with little trouble.

Chalco, Ltd.

This firm give a demonstration of the "Challenge" patent rustless curtain runner—an exceptionally convenient and up-to-date system of hanging curtains. In the "Challenge" the curtains are hung on neat little roller-bearing runners, the frames of which are made of rustless steel. The strong flat rail is easily bent by hand to fit any shape of window, without the use of any tool. It is very easily fixed in position. Curtains hung on "Challenge" runners are on the stand, forming part of the exhibit, and ready for manipulation and test by all interested. Several other attractive and extremely useful "Challenge" home accessories are also on view, including patent stair carpet clips, patent extending wardrobe rails and hanging wardrobes.

HEATING AND LIGHTING SECTION.

The Interoven Stove Co., Ltd.

"Interoven" and "Super Interoven" convertible cooking and heating stoves (Pascall's patents) are exhibited on this stand. They are readily convertible from cooking stove to open fire sitting-room grate, and save coal, space and labour. Over 60,000 "Interovens," the manufacturers state, are now in use. Other exhibits are:—"Bewty" expanding barless fire fronts (Pascall's patent), for modernising old-fashioned sitting and bedroom grates at a small cost; and "Bewty Minor" and "Bewty" dog grates. Also "Ten-in-One" adjustable stool bottom grates (Pascall's patent) and wrought welded range boilers of every description.

Candy & Co., Ltd.

Messrs. Candy & Co., Ltd., are again showing a selection of their well-known "Devon" fires. The "Devon" fire, the makers claim, embodies all the correct principles of construction, as the back, sides and bottom are composed of specially prepared fireclay, which results in considerable fuel economy and an extensive diffusion of heat in the room in which it may be fixed. The "Devon" fire in its decorative effect has many possibilities. It can be produced to fit in with any colour scheme and with any style of decoration, two objects much to be desired thus being combined, utility and beauty. Messrs. Candy have also on show fine examples of their production in decorative pottery, which is styled "Wescontree" ware, in which variety of shape and richness of colour are prominent features.

The New Stimex Gas Stove Co., Ltd.

This firm exhibits gas cookers, ranges and circulators, which embodies up-to-date principles. The gas combination range is designed to take the place of the ordinary coal kitchener, being gas cooker, fire and circulator combined. This range is fitted with a copper circulator, suitable in any district, whether the water is hard or soft.

Thomas Potterton.

This exhibit contains a selection of the standardised types of "Victor" gas boilers, and gives a working example of a system supplying hot water for general domestic use; also an exhibit of "Thermostats" for the automatic regulation of gas consumption, both water-type and atmospheric-type, can be seen in action, and the "Victor Combination" boiler, using coke or other smokeless fuel, or gas. Standard types of sectional boilers for central heating and applied equipment are included; also water treating plants for the elimination of lime deposit and other impurities, &c.

Samuel Smith & Sons, Ltd.

The makers claim for the "Foresight" range that it cooks the food perfectly, ensures a plentiful supply of hot water at all times, enables several boiling utensils to be in use at the same time, and reduces the fuel bill by 50 per cent. It is easily and quickly converted from an efficient cooking range into an open fire. Coal consumption is regulated by automatic movable fret. The working parts cannot burn away or get out of order as they are away from the fire. The flues are easily cleaned and maximum heat in room is radiated from special all-firebrick back, substantially made to stand long and hard wear. The parts, being standardised, are easily replaced should breakage occur. Extra hot-plate and close fire is obtained by swinging the trivet over the fire.

The Cozy Stove Co., Ltd.

This firm exhibit their well-known "Cozy" open fire stoves in various types of settings. The

Nos. 10a and 20 models are demonstrated burning. The No. 20 stove can be supplied with boiler to heat a couple of radiators. These stoves are constructed in such a way that they can be installed with the front plate flush with the tiles of the surround, thus giving the impression of a nice fireplace. At the same time, arrangements can be made so that the stove will heat one to two rooms besides the room in which it is installed by means of hot-air channels in the brickwork.

Allan Ure & Co.

The "Ure" back-to-back living-room grate and scullery cooker is a very widely-adopted combination fire doing the work of two which will successfully boil and stew on hot-plate, cook a 14-lb. joint and provide a plentiful hot-water service at one and the same time. This firm are also makers of mantel registers and interiors.

The Birnwell Iron Co., Ltd.

The "Birnwell" boiler, it is interesting to note, is a British invention, is British made, and is entirely British owned. It has been designed to provide a constant supply of hot water at any hour of the day or night. Each boiler is tested to a pressure of 100 lbs. per square inch before being despatched. Every "Birnwell" stove is guaranteed against defects in material and workmanship for five years.

Triplex Foundry, Ltd.

This firm invite every housewife to see the patent "Triplex" grates at work. Nothing shown on the stand is baked outside the hall. Ladies are asked to note the large cooking over and large boiling hot chamber on top of oven. The new "G" pattern has been specially designed to provide cooking accommodation for more than average requirements and the slightly larger fire to meet a demand for this in the north country. The "Workwell" grate is designed to give the working man's wife a thoroughly good cooking oven and an abundance of hot water, with economy. All who are interested in housing schemes are asked to inspect this practical grate.

W. H. Gaze & Sons, Ltd.

Gaze's are exhibiting in miniature their "All-weather" hard tennis court. The first British Hard Court Lawn Tennis Championship is being played in April next on "All-weather" hard courts at Torquay. Messrs. Gaze are also exhibiting garden figures and ornaments, in lead, old stone, &c. A fuller range of these figures can be seen at The Gazeway, Portsmouth-road, Surbiton; and tennis courts can be played upon, by appointment, at this address.

BOOK REVIEWS.

Spon's Architects' and Builders' Pocket Price Book for 1924. Edited by CLYDE YOUNG, F.R.I.B.A. Fiftieth edition. (London: E. & F. N. Spon, Ltd., 57, Haymarket, S.W. 1.)

This work, as its title indicates, is produced in a handy form, and contains a great deal of information in small bulk. It bears evidence of a certain amount of revision in the bulk items, but in certain smaller ones there is evidence of a little slackness, *e.g.*, while reduced brickwork in stocks is priced at £39 per rod, say, 2s. 10½d. per ft., lower down on the same page the brick walls are priced at 1s. 8d. per ft.; whereas on the same basis as bulk brickwork it should be 1s. 11d. without any allowance for the extra cost of less thickness. This remark also applies to the half-brick walls, so far as the extra cost last mentioned. It is difficult to understand why the extra cost of cement over lime-mortar should, in the case of stock brick-work be £2; in Fletton's, £1 10s.; and for the item of labour, mortar and scaffolding, £3. These may be small matters, but are inconsistencies to be avoided in a work of this class. The day-work prices for lead are lower than the purchase price has been for some six months past. Some of the prices are extremely low, notably stonework and granite sett paving.

Laxton's Builders' Price Book. (London: Kelly's Directories. Price 7s. 6d.)

Laxton's Builders' Price Book (1924) is a distinctly up-to-date publication, and keeps well abreast of the latest improvements in all matters relating to building construction.

Among the many good features in this edition we note that a very useful section on "Piling to Foundations and Riverside Structures" has been added (pp. 17 and 18). The chapter on reinforced concrete has itself been "reinforced" by a number of additional examples (pp. 40 to 45), and we appreciate the improvement effected by bringing together in one group asbestos manufactures of all kinds, with considerable advantage to clearness and handiness of reference (pp. 118 to 127).

It would be difficult to mention any article or material required in building which does not find mention in the many pages of this work.

Its arrangement is clear, its matter is good, and while conducted on its present lines its success is assured.

Plumbing: A Textbook for Craftsmen. By ERNEST G. BLAKE, M.R.S.I. (Crosby Lockwood. 2 vols. Price, 6s. each.)

These textbooks are well printed, amply illustrated, and indexed. The title-page states that the books are based on a work of the same title by another author. Presumably some old illustrations have been used and those for cast-iron gutters and roofs are not quite the modern practice. Illustrations of sections of gutters at present on the market would have been more useful. An example shown (Fig. 112) of lead covering to hatch would hardly prevent percolation of water. There are chapters dealing with rain water, pumps, hydraulic rams, and drainage and ventilation. A work of this description should have shown the more recent patterns of cast-iron inspection chambers to drains.

Vol. 2 deals with soil and waste pipes, sanitary fittings, hot-water supply, wash-houses and laundries, and gas fires and boilers. The chapter on waste-preventing cisterns gives a clear account of those in common use, but some hints as to the disadvantages and difficulties experienced with the different kinds when in use would have been of value. The tip-up lavatory basins shown (Fig. 77) are now rarely fitted in good class work. An air pipe is shown (Fig. 105) off trap to sink, and if this is meant to indicate a "puff" pipe, it is a practice which is rapidly becoming obsolete.

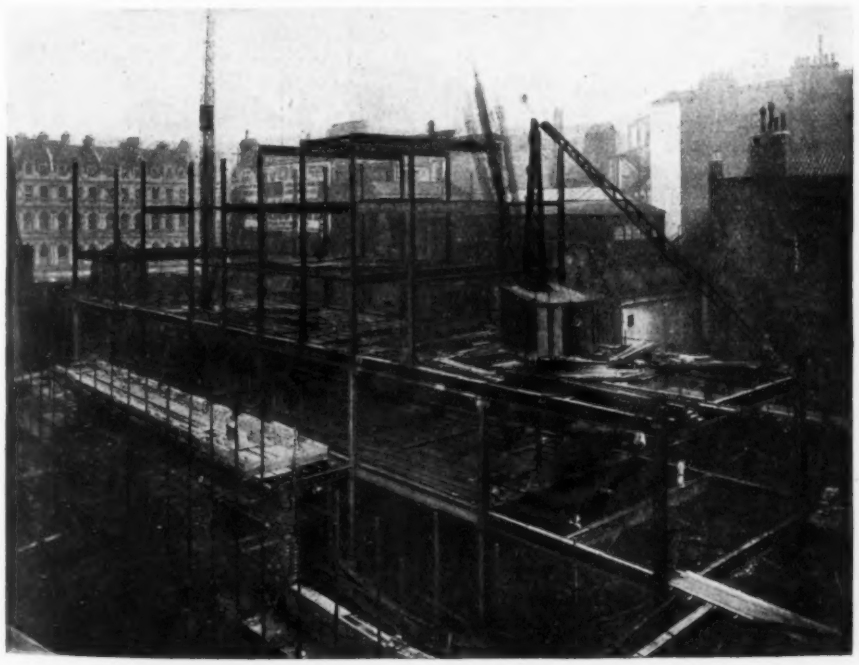
Heating arrangements for small domestic systems are dealt with, and it is suggested that the boiler to kitchen range should be cleaned "at most" every two or three years; annual cleaning would be the safer recommendation. In a book of this kind one would hardly expect to find such a large subject as gas stoves and gas boilers exhaustively treated, but hints as to the difficulty of cleaning out some kinds of gas boilers should have been mentioned.

The Housepainter's Handbook. By JAMES LAWRENCE. (Manchester: The Decorative Art Journals Co., Ltd.). Price 5s. net.

This book is admirably summed up in its title. It is actually a small, neat, concise book crammed with information, and containing the essentials of painting-trade practice. Seeing, however, that there is already at least one book on the market which has precisely the same aims and purpose, the need for yet another is questionable. The book includes, in addition to notes on colours, colour-mixing, &c., information as to measuring and pricing, care of brushes, various useful talks, and a dictionary of painters' and architectural terms. There is also a very good Roman alphabet; but for the most part the illustrations are of doubtful value. The church borders, for example, are of the kind that might well deter sensitive men from attending divine service. The value of the book would, we think, have been increased had it confined itself to statements of fact and not included designs for church decoration, frieze panels, stencilled ceiling corners, and the like, which, fortunately, few house painters are called upon to provide.

International Garden Cities and Town Planning Federation. Report of Conference at Gothenburg, 1923. Report No. 5.

This report includes accounts of housing progress in seventeen different countries since 1918, together with numerous papers dealing with different aspects of town planning contributed by experts, including Mr. Raymond Unwin and Mr. G. L. Pepler. The English report was presented by Dr. I. G. Gibbon, of the Ministry of Health, and among his observations he remarks that the reason we still have no law enabling local authorities to plan built-up areas is largely because there is as yet no serious demand for it by public opinion, "and it is not our practice to pass laws unless there is behind them a public opinion to make them effective." This principle is sound in theory, but in practice it too often means that the Government tolerates obvious evils rather than gives alead in the right direction. Not the least pleasing side of this report is the evidence it gives of increasing international co-operation in the great twin problems of town planning and housing, which are all pressing equally over the world.



New Premises for Messrs. Woolworth, Oxford Street, W. (*See p.* 377.)
[From a photograph taken on February 12.]

NEW BUILDINGS IN LONDON.

Oxford-street.—RECONSTRUCTION.—The premises of Messrs. Raoul's Shoe Co., 240, Oxford-street, are now being reconstructed by Messrs. Higgs & Hill, of Crown Works, South Lambeth-road, S.W.8. The reconstruction includes a marble front by Messrs. Jenkins, of Torquay, and metal work by Messrs. Pirie; Messrs. Waygood Otis, Ltd., are carrying out the lift work. The architects for the work are Messrs. Romaine-Walker & Jenkins.

Waterloo-road.— ALTERATIONS.— Alterations are now being carried out by Messrs. J. Parsons, of 190, Waterloo-road, at 117 and 119, Waterloo-road, for Messrs. Barclay's Bank, Ltd. The work consists of altering the ground floor and basement. This work will cost £1,851. The sub-contractors are: Cast stone front, by G. Seale & Sons, of Lomond-grove, S.E.; embossed glass, by W. Gibbs & Son, Union-street, S.E. Mr. V. Vagnolini, of 33, Stirling-road, Clapham rise, is the architect for the work.

Notting Hill Gate.—REMODELLING.—All the work in connection with the structural alterations and remodelling of the Linden Gardens Hotel is being carried out by G. H. Carter, Ltd., of Holloway, N.7. Messrs. Smith, Major & Stevens are installing an electric passenger lift.

Clapham-road.—RECONSTRUCTION.—The premises of the Royal Association in Aid of the Deaf and Dumb, Clapham-road, S.W., are being reconstructed by Holloway Bros., Ltd. The sub-contractors for the work are: Fireproof floors, &c., Homan & Rodgers; heating, Henry Hope & Sons; metal windows, Crittall Manufacturing Co., Ltd. Mr. E. Maufe, of 3, Raymond Buildings, Gray's Inn, W.C., is the architect for the work.

Wembley.—SHOPS.—Messrs. G. H. Carter, Ltd., of Holloway, N. 7, have had their tender accepted by the Wembley Park Estate for the construction of reinforced concrete foundations and the erection of four shops. The architect for this work is Mr. E. J. W. Hider, M.S.A., Avenue-chambers, W.C.

Regent-street.—BUILDING.—A new building is now being erected at 169–173, Regent-street, for the American Shoe Company, under the supervision of Messrs. Yates, Cook & Darbyshire; Mr. J. T. R. Wildman is the quantity surveyor. The building has an entire Portland stone front, and is a steel frame building; part will be used as showrooms for the company, and part of the ground floor and basement for the Burlington Restaurant. The upper portion of the building it is intended to let as business offices. The cost of the contract is approximately £60,000. The construction comes under the Steel Frames Act, and the reinforced floor contract has been let to Diespeker, Ltd., the steelwork being in the hands of the Aston Construction Co., Ltd. The stonework contract has been let to the Metropolitan Stone Co., and the granite to Brookes, Ltd. The asphalte has been let to the Ragusa Asphalte Co.; no other contracts have been arranged at the moment. The Monnoyer British Construction Co., Ltd., are the builders.

Tottenham Court-road. — EXTENSION. — The North British Rubber Company are having an extension made to their premises, at 200–203, Tottenham Court-road, which will be faced with Portland stone. The floors are of steel and concrete construction; cast iron sashes, panels, and mullions from Macfarlane's foundry. Messrs. Moreland, Hayne & Co. are the contractors for the steelwork. The lifts and lighting will be carried out by the Berkeley Electrical Engineering Co., 10, Davies-street, Berkeley-square, W. Mr. F. G. Minter, of Ferry Works, Putney, is the general contractor.

Houses for Guildford.

In reference to the tenders for twenty-nine pairs of non-parlour houses for Guildford, given in our issue of last week, the prices quoted are for single houses.

RATES OF WAGES IN THE BUILDING TRADE.

The following are the rates of wages in the building trade in England and Wales. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Brick-layers.	C'p'ters. Joiners.	Plas-terers.	Slaters.	Plum-bers.	Painters.	Labourers.
Aberdare	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Accrington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Altrincham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Ashton-under-Lyne	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Barnsley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Barrow-in-Furness	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Barry	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bath	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bedford	1/5	1/5	1/5	1/-	1/5	1/5	1/5	1/0½
Birkenhead	1/9	1/9	1/8½	1/9	1/9	1/9	1/8½	1/4
Birmingham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bishop Auckland	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Blackburn	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Blackpool	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bolton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bournemouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bradford	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Brentwood	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bridgwater	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Brighton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bristol	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Burnley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Burton-on-Trent	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/-
Bury	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Cambridge	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Cardiff	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Chatham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Chelmsford	1/5	1/5	1/-	1/5	1/5	1/5	1/5	1/0½
Cheltenham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Chester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Chesterfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Colchester	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Coventry	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Crewe	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Darlington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Derby	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Doncaster	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Dudley	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/-
Durham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
E. Glam.(Mon. Vall)	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Eastbourne	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Exeter	1/51	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/1½
Folkestone	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Gloucester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/1½
Grantham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Grays	1/8	1/8	1/8	1/8	1/8	1/8	1/7	1/3
Grimsby	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Great Yarmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Guildford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Halifax	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Harrogate	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Hartlepools	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Hastings	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Hereford	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/0½
Huddersfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Hull	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Ipswich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Lancaster	1/6½	1/6½	1/6½	1/6½	1/6½	1/8½	1/6½	1/2
Leamington Spa	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Leeds	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Leicester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Lichfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Lincoln	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Liverpool	1/9	1/9	1/8½	1/9	1/9	1/9	1/8½	1/4
Llanelly	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
London	1/8	1/8	1/8	1/8	1/8	1/8	1/7	1/3
Loughborough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Luton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Maidstone	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Manchester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Mansfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Merthyr Tydfil	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Middlesbrough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Newcastle-on-Tyne	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Newport, Mon.	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Northampton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Norwich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Nottingham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Oakham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Oldham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Oxford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Plymouth	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Pontypridd	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Portsmouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Preston	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Reading	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Rochdale	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Rochester	1/5	1/5	1/5	1/5	1/5	1/-	1/5	1/0½
Rugby	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
St. Albans	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
St. Helens	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Scarborough	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Sheffield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Shrewsbury	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Southampton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Southend-on-Sea	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Southport	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
South Shields	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stockport	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stockton-on-Tees	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stoke-on-Trent	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stroud	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Sunderland	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Swansea	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Swindon	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/0½
Taunton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/1½
Torquay	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Tunbridge Wells	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/2½
Wakefield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2
Walsall	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2½
Warrington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
West Bromwich	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Wigan	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/0½
Windsor	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/2½
Wolverhampton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/1½
Worcester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2½
York	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½

(For rates of wages in the Building Trade in Scotland, see page 400).

CONTRACTS, COMPETITIONS, &c.

Forsome contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.

BUILDING AND PAINTING.

MARCH 8.—**Carmarthen.**—FOUNDATIONS.—For laying of the foundations and carrying out the stonework in connection with the County War Memorial at Carmarthen. Mr. Ernest V. Collier, architect, 4, Quay-street Carmarthen.

MARCH 8.—**Carmarthenshire.**—NEW SCHOOL.—For erection of a new elementary school to accommodate 300 pupils at Gorslas, for the Carmarthenshire Education Committee. Mr. W. Vincent Morgan, Architect, County Offices, Carmarthen.

MARCH 8.—**Charminster.**—COTTAGES.—Erection of six bungalow cottages at Charminster, near Dorchester, for the Dorchester R.D.C. Mr. F. T. Maltby, Architect, Dorchester.

MARCH 8.—**Derbyshire.**—THE WILLIAM HOLMES' ALMSHOUSES.—Erection and completion of six almshouses at Greenwich, Ripley, Derbyshire, for the Ripley U.D.C. Mr. G. W. Bird, C.E., Town Hall, Ripley, Derbyshire. Deposit 10s. 6d.

MARCH 8.—**Pontypool (Mon).**—VARIOUS WORKS.—For supply to the Pontypool R.D.C. of the following:—(1) Haulage, for one year, at per ton rate with rubber tyre lorries; (2) team labour (day work); (3) steam rolling (hire of and scarifying); (4) supply of steam coal. Mr. R. O. Roberts, Surveyor, Usk (Mon).

MARCH 8.—**Reading.**—HOUSES.—Erection of 26 houses on the Shinfield-road Housing Site, for the Town-Planning Committee of the County Borough of Reading. Housing Architect, Old College Buildings, St. Laurence's Churchyard, Reading.

MARCH 10.—**Buxton.**—HOUSES.—For the erection of 36 houses on the Heath Grove Estate or in the Fairfield District, for the T.C. Mr. F. Langley, Borough Engineer, Town Hall, Buxton. Deposit £4 4s.

MARCH 10.—**Eccles.**—HOUSES.—For erection of 176 houses on the Peel Green Estate, for T.C. Mr. T. S. Picton, Borough Surveyor, Town Hall, Eccles. Deposit £3 3s.

MARCH 10.—**Glasgow.**—HOUSE.—For the erection of a medicalsuperintendent's house at Belvedere Hospital, for the T.C. Office of Public Works, City Chambers, 64, Cochrane-street, Glasgow. Deposit £2 2s.

MARCH 10.—**Glendale.**—PUBLIC CONVENIENCE.—For erection of a public convenience at Wooler, for the R.D.C. Mr. A. H. Greathead, Sanitary Inspector, Wooler.

MARCH 10.—**Grimsby.**—HOUSES.—Erection of 52 houses in Laceby-road, for T.C. Mr. H. G. Whyatt, Borough Engineer, Municipal Buildings, 170, Victoria-street, Grimsby. Deposit £2 2s.

MARCH 10.—**Guildford.**—ADDITION.—For a small addition to the baths, for the T.C. Borough Surveyor, Guildford.

MARCH 10.—**Johnstone.**—PAINTING.—For painting work at stables, for the T.C. Burgh Surveyor, Johnstone.

MARCH 10.—**Letterston (Pemb).**—WALL.—For building boundary wall to Letterston Green, for the Parish Council. Mr. Thomas John, Clerk, Letterston (Pemb).

MARCH 10.—**Liskeard.**—PAINTING.—(1) General external repairs and painting, at the Wesleyan Church; (2) interior renovations and decorations to the church; (3) interior renovations and decorations to the Sunday school and basement. Mr. H. R. Venning, architect, Greenbank-lane, Liskeard.

MARCH 10.—**Liverpool.**—PAINTING.—For exterior and interior painting, including general repairs and alterations, to New Police Remand Home for Children at Derwent House, Stoneycrof , for the T.C. Land Steward and Surveyor, Municipal-buildings, Liverpool.

MARCH 10. — **London, S.W.** — BUILDINGS AND COTTAGES.—Erection of administrative buildings and 12 cottages in Pleasance-road, on the Roehampton Estate, Putney, S.W.15, for the L.C.C. Architect to the Council, The County Hall (Room No. 3), Westminster Bridge, S.E.1. Deposit £2, to Cashier.

MARCH 10.—**Manchester.**—PAINTING.—For interior painting at the Whitworth Baths and Armitage-street and Miles Platting washhouses, for the T.C. City Architect, Town Hall, Manchester. Deposit 10s. 6d.

MARCH 10.—**Market Weighton.**—ADDITIONS.—(1) addition to administration block, (2) new hospital pavilion, (3) laundry, drainage and roads, at the Small-pox Hospital, for the East Riding of Yorkshire Small-pox Hospital Committee. County Architect, County Hall, Beverley. Deposit £1 1s.

MARCH 10.—**Preston.**—EXTENSIONS.—For extensions to clinic at the Preston and County of Lancaster Queen Victoria Royal Infirmary. Mr. A. C. M. Lillie, architect, Bamber Bridge.

MARCH 10.—**Pyle.**—HOUSES.—For the erection of 44 houses on Collwyn-road, Tremarlas-road, Pyle, for the Pyle Building Club. Mr. W. J. Hopkins, 51, North-avenue, Kenfig-hill, Pyle.

MARCH 10.—**St. Aloans.**—CASUAL WARDS.—Erection of casual wards, porters' quarters, &c., at St. Albans Union Workhouse, for the Board of Guardians. Mr. H. F. Mence, 11, St. Peter's-street, St. Albans. Deposit £3 3s.

MARCH 10.—**Sheffield.**—PAINTING.—For internal and external painting at Wales Court Institution, Waleswood, for the T.C. Mr. F. E. P. Edwards, City Architect, Town Hall, Sheffield.

MARCH 10.—**Wallasey.**—PAINTING.—For the painting of the interior of the roof of the Seacombe Ferry Vestibule, for the T.C. Ferry Manager, Seacombe.

MARCH 10.—**Walsingham, Norfolk.**—COTTAGES.—Erection of 20 cottages at Briston, Norfolk, for the Walsingham R.D.C. Mr. W. O. Humphery, Surveyor, Fakenham, Norfolk.

MARCH 11.—**Arreton (Isle of Wight).**—REPAIRS.—For repairs to tower of St. George's Church. School House, Arreton.

MARCH 11.—**Bingley.**—FLOORING.—For re-boarding floors at Mornington-road School, for the West Riding E.C. Education Dept., County Hall, Wakefield.

MARCH 11.—**Blaydon.**—REPAIRS, &C.—For repairs and alterations at property, in High Stella, for the U.D.C. Senior Sanitary Inspector, Council Offices, Blaydon-on-Tyne.

MARCH 11.—**Bognor.**—P.O., &C.—For the erection of a Post Office and Telephone Exchange at Bognor, Sussex, for the Commissioners of H.M. Works, &c. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

MARCH 11.—**Ecclesfield Lound.**—HUT.—Erection and adaptation of Army hut at Ecclesfield Lound Council School, for the West Riding E.C. Education Dept., County Hall, Wakefield.

MARCH 11.—**Halifax.**—HOUSES.—Erection of (1) 48 brick-faced houses, Nursery-lane, (2) 62 brick-faced houses, Boothtown, for the T.C. Borough Engineer, Crossley-street, Halifax. Deposit £2 2s.

MARCH 11.—**Harriseahead.**—CHURCH.—Erection and completion of a new Primitive Methodist Church, at Harriseahead, near Stoke-on-Trent, for the Trustees. Mr. F. C. Cumis, architect and chartered surveyor, Kidsgrove, Stoke-on-Trent. Deposit £2 2s.

MARCH 11.—**Huddersfield.**—HOUSE.—Erection of a house in Beaumont Park-road, Huddersfield. Messrs. Lunn & Kaye, architect, Milnsbridge, Huddersfield.

MARCH 11.—**Kirkburton.**—HOUSE.—Erection of a detached residence at the Storthes Hall Mental Hospital, Kirkburton, near Huddersfield, for the West Riding Mental Hospitals Board. Mr. W. E. H. Burton, Architect, Wakefield. Deposit £1.

MARCH 11.—**Leeds.**—PAINTING, &C.—For painting and cleaning the Infectious Diseases Hospital, Seacroft, and the Tuberculosis Sanatorium, Killingbeck, for the T.C. Steward, Seacroft Hospital, Leeds.

MARCH 11.—**Maltby.**—SCHOOL.—Erection of school for 800 children, for the West Riding E.C. Education Dept., County Hall, Wakefield.

MARCH 11.—**Manchester.**—LINEN STORE.—Erection of a linen store at Monsall Hospital, for the T.C. Architect, Town Hall, Manchester. Deposit £1 1s.

MARCH 11.—**Moss and Fenwick.**—PARTITION.—Erection of a folding partition at Moss and Fenwick Council School. Education Department, County Hall, Wakefield.

MARCH 11.—**Shepley.**—HOUSES.—(1) For roads and sewers, (2) for the erection of 16 type A3 houses at Shepley, for the U.D.C. Messrs. R. & W. Dixon, architects, 5, Eastgate, Barnsley. Deposit £2 2s.

MARCH 11.—**Stanley Outwood.**—BATHROOM.—Erection of bathroom for teacher's house, for the West Riding E.C. Education Dept., County Hall, Wakefield.

MARCH 11.—**Stromness.**—HOUSES.—Erection of two blocks of three-apartment houses and four blocks of four-apartment houses, for the T.C. Mr. T. S. Peace, architect, Kirkwall.

MARCH 11.—**Wemyssfield.**—EXTENSIONS.—For extensions at Education Offices, Wemyssfield, Kirkcaldy, for the Fife E.C. Mr. George Sandilands, Education Offices, Kirkcaldy. Deposit £1 1s.

MARCH 12.—**Bedford.**—TELEPHONE EXCHANGE.—For the erection of a Telephone Exchange at Bedford, for the Commissioners of H.M. Works, &c. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit £1 1s.

✱MARCH 12.—**Christchurch (Hants).**—COTTAGE HOMES.—Erection of two additional cottage homes, at Fairmile-road, Christchurch, for the Christchurch Union. Mr. Percy C. Ford, Clerk to the Guardians, Fairmile House, Christchurch (Hants). Deposit £2 2s.

MARCH 12.—**Cuckfield, Sussex.**—NURSES' HOME.—Alterations and additions to the Nurses' Home at the West Hylands Institution at Cuckfield, Sussex, for the Guardians of the Poor-Law Union of Cuckfield, Sussex. Office of the Board's Architect, Mr. Wm. H. Overton, 22, Ship-street, Brighton.

MARCH 12.—**Denbeath.**—INSTITUTE.—Erection of a Miners' Welfare Institute, at Denbeath, Fife. Mr. Stewart Tod, architect, East Wemyss.

MARCH 12.—**Manchester.**—SCHOOL.—Erection of high school for girls in Church-lane, Harpurhey, for the T.C. Clerk, Education Offices, Deansgate, Manchester. Deposit £2 2s.

MARCH 12.—**Ogmore Vale.**—HOUSE.—For erecting a house at Caedu Cross, Ogmore Vale, for the Ogmore-Valley Motor Ambulance Society. Secretary, 7, John-street, Ogmore Vale.

MARCH 12.—**Shrewsbury.**—PAINTING.—For external painting of the Royal Salop Infirmary. Mr. A. Sugden, secretary, Shrewsbury.

MARCH 12.—**Wembley.**—PAINTING.—For painting of street lamp and sewer ventilating columns, for the U.D.C. Mr. Cecil R. W. Chapman, Surveyor, Council Offices, Wembley.

MARCH 13.—**Ashton-in-Makerfield.**—SCHOOL.—For the erection of a Council School of semi-permanent construction, for 500 scholars, at Ashton-in-Makerfield, near Wigan, for the Lancashire E.C. Mr. Henry Littler, County Architect, 16, Ribblesdale-place, Preston. Deposit £2.

MARCH 13.—**Doncaster.**—VESTRIES.—For erection of new vestries for the Church of St. Jude, Hexthorpe. Messrs. Walker & Thompson, surveyors, Carbon-chambers,, Hall-gate, Doncaster. Deposit £1 1s.

✱MARCH 13.—**Hatfield.**—HOUSES.—Erection of 24 further houses for the working classes at Hatfield, at an early date, for the Hatfield R.D.C. Messrs. Crickmer & Foxley, 1, Lincoln's Inn Fields, London, W.C.2.

MARCH 13.—**Liverpool.**—PAINTING.—For cleaning and painting inside the whole of the offices of the City Lighting Department, Highfield-street, for the T.C. Land Steward and Surveyor, Municipal-buildings, Liverpool.

MARCH 13. — **Willenhall.** — ALTERATIONS, &C.—For alterations and extensions to Willenhall Post Office, Staffs, for the Commissioners of H.M. Works, &c. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

MARCH 13.—**Woolwich, S.E.18.**—HOUSES.—Erection of 100 houses on the Housing Estate at Eltham, for the Metropolitan Borough of Woolwich. Mr. John Sutcliffe, Assoc.M.Inst.C.E., Borough Engineer, Town Hall, Woolwich. Deposit £3 3s.

MARCH 14.—**Bingley.**—ADDITIONS.—For additions and alterations to the Cottage Hospital. Mr. Frank Atkinson, architect, Old Bank Chambers, Bingley.

MARCH 14.—**Crompton.**—SCHOOL.—For the erection of a Council school for 350 scholars at Crompton, near Oldham, for the Lancashire E.C. Mr. Henry Littler, County Architect, 16, Ribblesdale-place, Preston. Deposit £2.

MARCH 14.—**Derrytagh.**—ALTERATIONS.—For alterations and additions to Constabulary Barracks for Government of Northern Ireland. Mr. W. D. Scott, Assistant Secretary, Ministry of Finance, 15, Donegall-square, West Belfast.

MARCH 14.—**Linthwaite.**—HOUSES.—Erection of 30 scullery type houses, for the U.D.C. Mr. Joe Ainley, architect, 3, Chapel-hill, Huddersfield.

MARCH 14.—**London, N.1.**—EXTENSIONS.—For the erection of extensions to the Municipal Offices in Tyndale-place, Upper-street, for the Metropolitan Borough of Islington. Mr. E. C. P. Monson, Finsbury Pavement House, 120, Moorgate, E.C. 2. Deposit £10.

MARCH 14.—**Mitcham.**—BUILDING.—For the erection of a building for use as an Infant Welfare Centre at Cavendish-road, for the U.D.C. Surveyor, Broadway House, Mitcham.

MARCH 14.—**Pontefract.**—ADDITIONS.—For alterations and additions to the "Turk's Head" inn, Pontefract, for Messrs. The Carter's Knottingley Brewery Co., Ltd. Messrs. Garside & Pennington, architects, Pontefract.

MARCH 14.—**Swindon.**—REPAIRS.—Various repairs at hospital for the Swindon and District Hospital Board. Matron at the Hospital.

MARCH 14.—**Thornbury.**—SHOPS.—Erection of three shops and dwelling-houses in Thornbury. Mr. Herbert Varley, architect, 975, Leeds-road, Bradford.

MARCH 15.—**Lytham St. Annes.**—HOUSES.—Erection of 72 houses on various sites within the Borough, for the T.C. Borough Surveyor, Town Hall, St. Annes-on-the-Sea.

MARCH 15.—**Dewsbury.**—PAINTING.—For the painting of the Covered Market, for the T.C. Borough Surveyor, Town Hall, Dewsbury.

MARCH 15.—**Otley.**—HOUSES.—Designs and prices for 122 houses (qualifying for Government subsidy), for the U.D.C. Surveyor, Council Office, Otley.

MARCH 15. — **Shoeburyness, Essex.** — HOUSES.—Erection of 34 working class houses on the Housing Site at Dangers, Shoeburyness, Essex, for the Shoeburyness U.D.C. Mr. E. Read, Council's Surveyor, High-street, Shoeburyness.

MARCH 15.—**Swillington.**—HOUSES.—Erection 50 houses, for Messrs. T. & R. W. Bower, Ltd. General Manager, Allerton Main Collieries, Woodlesford, near Leeds.

MARCH 15.—**Thetford.**—SHEDDING.—Construction of the shedding, grand stand, offices, and other woodwork erections, for Royal Norfolk Show at Thetford. Mr. W. Kerridge, East Harling, Attleborough.

MARCH 15.—**Warrington.**—PAINTING.—For painting, for the Gas Department. Mr. W. S. Haddock, General Manager, Gas Offices, Mersey-street, Warrington.

MARCH 17.—**Gorseinon (Glam).**—BRIDGE.—For construction at Gorseinon of a new ferro-concrete bridge over the river Lliw, for the Swansea R.D.C. Messrs. Morgan, Davies & Partners, civil engineers, Wind-street, Swansea.

MARCH 17.—**Halifax.**—LIBRARY.—Erection of new branch library and reading room, Siddal, for the T.C. Borough Engineer, Crossley-street, Halifax. Deposit £1 1s.

MARCH 17.— **Hampstead.**— CONVENIENCES.— Construction of public conveniences at (1) Grangeway, Kilburn, (2) West End Green, and (3) Fortune Green, for the B.C. Borough Engineer, Town Hall, Hampstead. Deposit £1 1s.

MARCH 17.—**Heswall.**—EXTENSIONS.—For the erection of sergeant's house and offices at the County Police Station at Heswall. Mr. H. Beswick, County Architect, Chester. Deposit £1 1s.

✱MARCH 17.—**London, S.W.3.**—REPAIRS, PAINTING AND DECORATING, AND NEW ENTRANCE GATES.—(*a*) For repairs, painting and decorating to the interior of the Dispensary Block, at the Hospital, Cale-street, Chelsea, S.W.; (*b*) for taking down existing gates and piers to the Ambulance Entrance of the Hospital in Cale-street, and erecting new, for the Guardians of the Parish of Chelsea. Mr. Edmund J. Harrison, 23, Berkeley-road, Crouch End, N. 8. Deposit £2.

✱MARCH 17.—**Penge, S.E.20.**—CONVENIENCE.—Construction of an underground convenience on a triangular piece of ground in High-street, Penge, for the U.D.C. Colonel H. W. Longdin, Surveyor to the Council, Town Hall, Anerley, S.E.20.

MARCH 17.—**Pontefract.**—BUNGALOWS.—Erection of (1) bungalow, in Pontefract, for Mr. E. H. Clarke; (2) bungalow, in Pontefract, for Mr. F. H. W. Holmes. Messrs. Garside & Pennington, architects, Pontefract.

✱MARCH 17.—**Prestatyn.**—HOUSES.—Erection of 14 houses on the Penrhwylfa-road, Prestatyn, for the U.D.C., on the Dawson Estate. Mr. S. Trevor Roberts, M.Inst.M. and C.E., Architect and Surveyor, for the Housing Scheme, Council Offices, Prestatyn. Deposit £3 3s.

MARCH 17.—**Tyne Dock.**—IMPROVEMENTS.—For carrying out improvements at Tyne Dock Station, for L. & N.E. Railway. Mr. S. Wilkinson, Architect, North Eastern Area, Newcastle.

MARCH 18.—**Bangor.**—ALTERATIONS.—For alterations to Maesgarnedd Children's Home, Llanfair P.G., for the Bangor and Beaumaris Board of Guardians. Mr. Robert Pierce, Insurance Chambers, Carnarvon.

MARCH 18.—**Bethnal Green, E.2.**—REDECORATIONS AND REPAIRS.—Internal redecoration, repair and alteration of the Schools, High-road, Leytonstone, E.11, for the Bethnal Green B.G. Mr. C. Faulkner Jones, Clerk to the Guardians, Administrative Offices, 79A, Bishop's-road, Bethnal Green, E.2. Deposit £2 2s.

MARCH 18.—**Coole.**—CHAPEL.—Erection of a memorial chapel at Coole, co. Westmeath, for Mr. Edward Hope. Messrs. Morris & Kavanagh, quantity surveyors, 68, Harcourt-street, Dublin. Deposit £1 1s.

MARCH 18.—**Glossop.**—HOUSES.—Erection of 12 houses on Sheffield-road Site, for the T.C. Borough Surveyor, Town Hall, Glossop. Deposit £2 2s.

MARCH 18.—**Leytonstone.**—REPAIRS, &C.—For the internal redecoration, repair and alteration of the schools, High-road, Leytonstone, E.11, for the Bethnal Green Board of Guardians. Mr. C. Faulkner Jones, Clerk, 79A, Bishop's-road, Bethnal Green, E.2. Deposit £2 2s.

MARCH 18.—**Sunderland.**—FENCING.—Provision and erection at Ryhope of approximately 430 lin. yds. of creosoted military pale fencing, 5 ft. 6 in. high, for the R.D.C. Mr. Thomas Young, surveyor, 17, John-street, Sunderland.

MARCH 18.—**Wellington (Salop).**—HOUSES.—For the erection of 36 houses, for the U.D.C. Mr. G. H. Connor, Surveyor, Council Offices, Wellington. Deposit £2 2s.

MARCH 19.—**Barnet.**—COTTAGES.—For the erection of three pairs of cottages at Bells Hill, for the Guardians of the Barnet Union. Messrs. White, Son, & Pill, 13 & 15, High-street, Barnet.

✱MARCH 19.—**Brighton.**—HOUSES.—Erection of four houses in Hereford-street, Brighton, for the County Borough Council. Borough Surveyor, Town Hall, Brighton. Deposit £1.

MARCH 19.—**Clacton-on-Sea.**—FENCING.—For supply of 500 lin. yds. of larch fencing, 2 ft. and 3 ft. in height, creosoted one coat, for U.D.C. Surveyor, Council Offices, Clacton-on-Sea.

MARCH 19.—**Dartford.**—HOUSES.—For the erection of 28 houses (in blocks of 4) on the Lowfield-street Housing Estate, for the U.D.C. Mr. J. James Hurtley, Clerk, Council Offices, Dartford. Deposit £2 2s.

MARCH 19.—**Edinburgh.**—WALLS.—For the taking down of retaining and parapet walls and the erection of new walls, for the T.C. City Road Surveyor, City Chambers, Edinburgh.

MARCH 19.—**Evesham.**—HOUSES.—Erection of 26 houses (with other work incidental thereto) on their site near King's-road, Bengeworth, Evesham, under the provisions of the Housing Acts, for the T.C. of the Borough of Evesham. Borough Surveyor (Mr. J. Abbott) Town Hall, Evesham. Deposit £2 2s.

✱MARCH 19.—**London, N.W.**—DEMOLITION WORK.—Demolition of the Aircraft Stores Depot Building, Regent's Park, London, for the Commissioners of H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1.

✱MARCH 21.—**Croydon.**—COTTAGES.—Erection and completion of three cottages in the new Relief-road, Waddon, on the site situated about 750 yds. from Waddon Railway Station, for the County Borough Council of Croydon. Borough Engineer, Town Hall. Croydon. Deposit £1 1s.

✱MARCH 21.—**Ipswich.**—ALTERATIONS.—Alterations to the Head Post Office, Ipswich, for the Commissioners of H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s., payable to the Secretary.

MARCH 22.—**Milford Haven.**—TEMPLE.—For building a new Masonic temple at Milford Haven. Mr. J. Howard Morgan, F.R.I.B.A., 24, King-street, Carmarthen.

✱MARCH 22.—**Skegness.**—FIRE STATION.—For the construction of a fire station on land adjoining the Council Offices, for the U.D.C. Mr. R. H. Jenkins, Engineer and Surveyor, Council Offices, Skegness.

MARCH 24.—**Brierley Hill (Staffs).**—HOUSES, ROADS AND SEWERS.—Erection of thirty houses, together with the necessary roads and sewers, on the Mill-street Housing Estate, for the Brierley Hill U.D.C. Mr. John Yorke, Surveyor, Town Hall, Brierley Hill, Staffs.

MARCH 29.—**Navan.**—VARIOUS WORKS.—For structural alterations, additions, repairs, plumbing and extension of drainage, roads and pathways, at the Navan County Hospital, for the County Meath Board of Health. Mr. A. Edward Smith, quantity surveyor, 5, St. Andrew-street, Dublin. Deposit £2 2s.

✱MARCH 31.—**Poplar, E.14.**—TENEMENTS.—Erection of 12 tenements on a site at Lower North-street, for the Metropolitan Borough Council of Poplar. Mr. Harley Hockford, Borough Surveyor, Council Offices, Poplar. Deposit £3 3s.

MARCH 31.—**Ripon (Yorks).**—DISMANTLING, &C.—For following services at nine camps: (1) For the purchase of hutted camps and remove all buildings and debris; (2) purchase of materials resulting from dismantling; (3) for dismantling only; (4) for removal of concrete and other materials left on camps. Roads and Communication Officer, Ripon Camp.

MARCH 31.—**Sligo.**—STATION BUILDINGS.—For reconstruction of station buildings at Sligo, for the Midland Great Western Railway Co. Chief Engineer, Broadstone Station, Dublin. Deposit £4.

NO DATE.—**Bonnyrigg.**—HOUSES.—Construction of three groups of two-story flatted houses (24 three-apartment houses and 8 two-apartment houses), for the T.C. Mr. James Gray, architect, 140, Princes-street, Edinburgh.

✱NO DATE.—**Bucks.**—ALTERATIONS AND ENLARGEMENTS.—Alterations and extensive enlargements to Wycombe Marsh Paper Mills, High Wycombe, Bucks. Wycombe Marsh Paper Mill, High Wycombe, Bucks.

NO DATE.—**Buxton.**—BUNGALOW.—For the erection of a bungalow in Lansdowne-road, for Mr. G. B. Chell. Mr. Charles Flint, architect, Buxton.

✱NO DATE.—**Dudley.**—HOUSES.—Erection of 12 houses on the White Nobs site, for the Housing Committee of the County Borough of Dudley. Mr. F. H. Gibbons, M.Inst.M. & Cy.E., Borough Engineer, Town Hall, Dudley.

NO DATE.—**Hensingham.**—INSTITUTE.—Erection of an Institute and Sunday School, at Hensingham, near Whitehaven. Messrs. Higginson & Slack, architects, Lowther-street, Carlisle.

NO DATE.—**Letterfrack.**—CHURCH.—Erection of a new church at Letterfrack, co. Galway, for the Rev. W. Diskin, P.P., Letterfrack. Mr. R. M. Butler, architect, 23, Kildare-street, Dublin.

NO DATE.—**Mossley.**—HOUSES.—For the erection of houses, for the T.C. Borough Surveyor, Town Hall, Mossley.

NO DATE.—**Ogmore Vale.**—COTTAGES.—For erection of two cottages at Ogmore Vale. Mr. John Rees, 9, Commercial-street, Ogmore Vale.

NO DATE.—**Radcliffe.**—VARIOUS WORKS.—(1) Reboarding of school floor, (2) interior decoration, (3) installation of electric light, at St. Paul's Wesleyan Schools. Mr. Wm. Marsh, 46, Starling-road, Radcliffe.

FURNITURE, MATERIALS, etc.

MARCH 8.—**Colne.**—MATERIALS.—Supply of highway and other materials to the T.C. Mr. T. H. Hartley, Borough Engineer, Colne.

MARCH 8.—**Denbighshire.**—MATERIALS.—For supply of road material, &c., for one year, for C.C. Mr. E. W. Jones, County Surveyor, Wrexham.

MARCH 8.—**Morley.**—MATERIALS.—For supply of road and other materials, for one year, for T.C. Mr. F. Turner, Borough Engineer, Town Hall, Morley.

MARCH 10.—**Barnet.**—MATERIALS.—Supply of brick rubbish hardcore for road foundations; hard clinker for path foundations; and three hundred yards run of 12 in. by 6 in. flat Norwegian or other approved granite kerb, to the R.D.C. Mr. A. J. Wilshire, Surveyor, Council Offices, Borcham Wood.

MARCH 10.—**Bingham.**—ROAD MATERIAL.—Supply of slag to the R.D.C. Mr. D. W. Mason, Clerk, Bingham.

MARCH 10.—**Caerphilly.**—MATERIALS.—Supply of broken limestone and tar and Bideford gravel, for the R.D.C. Mr. T. H. Richards, Surveyor, Council Offices, Caerphilly.

MARCH 10.—**Clutton.**—MATERIALS.—Supply of granite, tar-macadam and limestone to the R.D.C. Mr. T. Orchard, surveyor, Hallatrow, near Bristol.

MARCH 10.—**Derby.**—MATERIALS.—Supply of bricks, cement, paints and oils, road materials, &c., for the T.C. Mr. G. A. Clews, Borough Surveyor, Derby.

MARCH 10.—**Glossop.**—SANITARY FITTINGS.—For supply of sanitary fittings, for T.C. Mr. G. H. Lea, Town Clerk, Town Hall, Glossop.

MARCH 10.—**Hamilton.**—MATERIALS.—Supply to the Lanark C.C. District of the Middle Ward of (*a*) tools and implements, (*b*) fencing materials, and (*c*) drain-pipes, for one year. Mr. W. A. Chapman, Road Surveyor, District Offices, Hamilton.

MARCH 10.—**Hatfield.**—MATERIALS.—Supply of local road materials, team labour, &c., to the Herts C.C. Lieut.-Col. A. E. Prescott, County Surveyor, Hatfield.

MARCH 10.—**Hemel Hempstead.**—MATERIALS.—For supply of materials for various public services for T.C. Mr. A. E. Usher, Town Clerk, Town Hall, Hemel Hempstead.

MARCH 10.—**Hoo.**—ROAD MATERIALS.—For supply of road maintenance requisites, for one year, for R.D.C. Mr. M. J. Harvey, District Surveyor, 12, Haig-villas, Hoo, Rochester.

MARCH 10.—**Ilkley.**—MATERIALS.—For supply of tarred slag and distilled tar, for one year, for U.D.C. Mr. J. M. Gameson, Surveyor, Town Hall, Ilkley.

MARCH 10.—**Kidderminster.**—MATERIALS.—Supply of road and other materials to the T.C. Mr. J. Hawcroft, Borough Surveyor, Town Hall, Kidderminster.

MARCH 10.—**Nelson.**—ANNUAL CONTRACTS.—Supply and delivery of materials for roads, &c., for the year ending March 31, 1925, for the B.C. of Nelson. Mr. W. Shackleton, A.M.Inst.C.E., Borough Engineer and Surveyor, Town Hall, Nelson.

MARCH 10.—**Southwell.**—MATERIALS.—Supply of road materials to the R.D.C. Mr. R. Morris, Surveyor, Easthope, Southwell.

MARCH 10.—**Stoke-on-Trent.**—MATERIALS.—Supply of various materials to the T.C. for six months. Borough Surveyor, Town Hall, Stoke.

MARCH 10.—**Swindon.**—TAR.—Supply of about 30,000 gallons of refined tar; or, alternatively, an equivalent quantity of bituminous compound. Borough Surveyor, 34, Regent-circus, Swindon.

MARCH 10.—**Thingoe.**—GRANITE.—For supply of broken granite, for one year, for R.D.C. Mr. C. D. Bright, Surveyor, College-street, Bury St. Edmunds.

MARCH 10.—**Wallasey.**—MATERIALS.—Supply of granite, macadam and chippings, Portland cement, granite concrete flags, to the T.C. Mr. L. St. G. Wilkinson, Borough Engineer, Town Hall, Wallasey.

MARCH 11.—**Caerphilly.**—SUPPLIES.—For supply to the U.D.C., for a period of twelve months, of following stores:—(5) Ironmongery sundries; (6) linen and drapery sundries; (8) chemist's and druggist's sundries; (9) hospital coke, coal and firewood. Mr. J. Tomkinson, Council Offices, Caerphilly.

MARCH 11.—**Cardiff.**—MATERIALS.—For supply of stores to the T.C. for one year. City Engineer, City Hall, Cardiff.

MARCH 11.—**Eastbourne.**—MATERIALS.—Supply of broken granite, tarmacadam, Mendip stone, Kentish rag and flints, to the R.D.C. Mr. W. Walker, Surveyor, 3, Bedford-grove, Eastbourne.

MARCH 11.—**East Ellos.**—MATERIALS.—Supply of granite, slag, gravel, &c., to the R.D.C. Mr. S. Mossop, Clerk, West-end, Holbeach.

MARCH 11.—**Liverpool.**—MATERIALS.—For the supply of various materials required for City Engineer's Dept. City Engineer, Municipal Buildings, Dale-street, Liverpool.

MARCH 11.—**Manchester.**—MATERIALS.—Supply of (*a*) steel tramway poles; (*b*) span-wire brackets; (*c*) cast-iron bases; (*d*) copper and bronze trolley wire. Mr. Henry Mattinson, General Manager, Corporation Tramways, 55, Piccadilly, Manchester.

MARCH 11.—**Salford.**—MATERIALS.—Supply of various materials, for the T.C. Borough Engineer, Town Hall, Salford.

MARCH 12.—**Birmingham.**—MATERIALS.—Supply to the Birmingham Tame and Rea District Drainage Board of paints and drysaltery, and timber. Engineer, The Rookery, Erdington Park, Birmingham.

MARCH 12.—**Eastbourne.**—MATERIALS.—For supply of road and other materials, for T.C. Mr. L. Roseveare, Borough Engineer, Town Hall, Eastbourne.

MARCH 12.—**Fulham.**—MATERIALS.—For supply of materials for various public services, for B.C. Mr. J. P. Shuter, Town Clerk, Town Hall, Fulham, S.W.6.

MARCH 12.—**Magor.**—MATERIALS.—Supply of broken limestone and gravel to the R.D.C. Mr. Wm. Dowler, Clerk, Union Offices, Queen's-hill, Newport, Mon.

MARCH 12.—**Manchester.**—RED TERRA COTTA.—For supply of red terra cotta for the Municipal High School for Girls, Church-lane, Harpurhey, for T.C. Clerk, Education Offices, Deansgate, Manchester. Deposit £1 1s.

MARCH 12.—**Rye.**—MATERIALS.—Supply of material for one year to the R.D.C. Mr. H. J. Elliot Surveyor, Winchelsea, Sussex.

MARCH 12.—**Shoreditch.**—MATERIALS.—Supply of road materials, brooms, &c., for one year, to the B.C. Borough Surveyor's Department, Town Hall, Old-street, E.C.2.

MARCH 12.—**Wellingborough.**—MATERIALS.—Supply of highway materials to the U.D.C. Mr. R. S. Henshaw Surveyor, Council Offices, Swanspool, Wellingborough.

MARCH 13.—**Strood.**—MATERIALS.—For supply of road materials, for one year, for R.D.C. Mr. L. Randerson, District Surveyor, Meopham, near Gravesend.

MARCH 13.—**Uxbridge.**—ROAD MATERIALS.—For supply of road materials, for the R.D.C. Mr. E. E. T. Bolton, Surveyor, Corn Exchange, Uxbridge.

MARCH 14.—**Aylesbury.**—MATERIALS.—Supply of broken granite and refined tar, for one year. Mr. R. C. F. Sizer, Surveyor, Aylesbury.

MARCH 14.—**Bishopthorpe.**—MATERIALS.—For supply of whinstone, slag and slag chippings, for R.D.C. Mr. C. C. Lucas, Clerk to the Council, 6, New-street, York.

MARCH 14.—**Warwick.**—MATERIALS.—For the supply of broken stone, slag, macadam, &c., to the Warwickshire C.C. Mr. D. H. Brown, County Surveyor, Northgate-street, Warwick.

MARCH 15.—**Edinburgh.**—MATERIALS.—Supply of cement, brick and fireclay goods to the Burgh Engineer's Dept. for six months. Burgh Engineer, Edinburgh.

MARCH 15.—**Edinburgh.**—MATERIALS.—Supply of paints, timber, tools, &c., for six months, to the Fire Engines Dept. Central Fire Office, Edinburgh.

MARCH 15.—**Edinburgh.**—MATERIALS.—Supply of materials to the City Architect's Dept. for six or 12 months. City Architect, Edinburgh.

MARCH 15.—**Harrow.**—MATERIALS.—Supply of granite chippings, tar macadam, limestone tarpaving, shingle, fodder, distilled tar, to the U.D.C. Mr. J. Percy Bennetts, Surveyor, Council Offices, Harrow.

MARCH 15.—**Marple.**—MATERIALS.—Supply of road materials to the U.D.C. M. D. J. Driver, Surveyor, Council Offices, Marple.

MARCH 15.—**Riecall.**—ROAD MATERIALS.—For supply of road materials, for one year, for R.D.C. Mr. J. Townend, Clerk. Council Offices, Selby.

MARCH 15.—**Sevenoaks.**—MATERIALS.—For supply of road materials, for one year, for U.D.C. Surveyor, Council Offices, Argyle-road, Sevenoaks, Kent.

MARCH 15.—**Westhampnett (West Sussex).**—MATERIALS.—Supply of road materials to the R.D.C. Mr. A. W. Shorland, Surveyor, Council Offices, Pallant House, Chichester.

MARCH 17.—**Bredbury and Romiley.**—MATERIALS.—Supply of road and other materials to the U.D.C. Surveyor, Offices, Bredbury.

MARCH 17.—**Margate.**—MATERIALS.—Supply of road and other materials to the T.C. Mr. E. A. Borg. Borough Engineer, 13, Grosvenor-place, Margate.

MARCH 17.—**Merthyr Tydfil.**—SUPPLIES.—For supply to the Board of Guardians for (1) Poor-Law Institution, Merthyr Tydfil; (2) Subsidiary Institution, Trecynon, Aberdare; (3) Central Homes, Llwydcoed, Aberdare; in bulk, of straw, haulage, boots and shoes, officers' uniforms, oils, paints, ironmongery, boot-making materials, leather, drugs, medical accessories, &c. Mr. F. T. James, Union Offices, High-street, Merthyr Tydfil.

MARCH 18.—**Faversham.**—MATERIALS.—Supply of pit flints (broken), shingle and fine gravel, to the R.D.C. Mr. J. G. Chittenden, District Surveyor, Ashford-road, Faversham.

MARCH 18.—**Hazel Grove.**—MATERIALS.—Supply of stone, chippings, and other materials for highways purposes, to the U.D.C. Surveyor, Council Offices, Hazel Grove.

MARCH 19.—**Burnley.**—MATERIALS.—Supply of highway requisites to the R.D.C. Mr. Frank Hewitt, Surveyor, 18, Nicholas-street, Burnley.

MARCH 19.—**Hollingbourn.**—GRANITE, &C.—For supply of 400 tons of granite and 1,500 tons of tar macadam, for R.D.C. Mr. F. Miskin, 33, Earl-street, Maidstone.

MARCH 19.—**Walthamstow.**—MATERIALS.—For supply of materials for various services, for U.D.C. Surveyor, Town Hall Annexe, Orford-road, Walthamstow.

MARCH 22.—**Pontefract.**—MATERIALS.—Supply of road materials to the T.C. Mr. J. E. Pickard, Borough Surveyor, Municipal Offices, Pontefract.

MARCH 25.—**Penarth.**—STORES.—For supply to U.D.C. of general stores, ironmongery and brushes, &c. Mr. J. W. Morris, Clerk, Council Offices, Penarth.

MARCH 31.—**Barnsley.**—FURNITURE.—Supply of school furniture for a new Central School, for the T.C. Mr. Evan Davies, Director of Education, Education Office, Barnsley.

NO DATE.—**Warrington.**—FURNITURE.—For the furnishing of the new offices, Museum-street, of the Board of Guardians. Messrs. William & Segar Owen, Palmyra-square Chambers, Warrington. Deposit £2 2s.

ENGINEERING, IRON AND STEEL.

MARCH 8.—**South Africa.**—POWER STATION.—For steel frame buildings for power station and equipment of power station, &c., for electrification of railways in the neighbourhood of Cape Town, for the Union of South Africa Electricity Supply Commission. Messrs. Merz & McLellan, 32, Victoria-street, S.W. Deposit £10 10s.

MARCH 8.—**Wrexham.**—FENCING.—For supply of 500 yds. of unclimbable iron or steel fencing, 6 ft. high, for Wrexham and East Denbighshire Water Co. Mr. F. Storr, Engineer, Waterworks Offices, 21, Egerton-street, Wrexham.

MARCH 10.—**Kirkcudbrightshire.**—BRIDGE.—For the construction in ferro-concrete on the Hennebique system of a new bridge over the river Dee at Kirkcudbright, and the removal of the existing iron bridge, for the C.C. Messrs. Blyth & Blyth, civil engineers, 135, George-street, Edinburgh. Deposit £3 3s.

MARCH 10.—**Poole.**—TRAINING BANK.—Construction of a proposed training bank on the South Haven side of the entrance to Poole Harbour. Mr. H. Kendall, Surveyor, Poole.

MARCH 12.—**Barnsley.**—ELECTRIC LIGHTING.—For the installation of electric lighting services in several elementary schools. Mr. Evan Davies, Director of Education, Education Offices, Barnsley.

MARCH 12.—**Blackburn.**—ELECTRIC LIGHTING.—For electric lighting installation at Orphanage. Secretary, Orphanage, Wilpshire.

MARCH 12.—**Leeds.**—ROAD PLANT.—Supply of one portable petrol-driven concrete mixer; one portable petrol-driven stone breaker, complete with elevators, screens, &c., and portable petrol-driven compressor provided with four pneumatic concrete breaking tools, to the T.C. Highways and Permanent Way Engineer, 1, Swinegate, Leeds.

MARCH 12.—**Madras.**—PUMPING PLANT.—Supply of sewage pumping machinery to the T.C. Messrs. J. Mansergh & Sons, agents, 5, Victoria-street, S.W. Deposit 10s. each of two contracts.

MARCH 13.—**Newcastle-on-Tyne.**—RENEWAL.—For the renewal of the floor of bridge No. 18, carrying New Bridge-street, Newcastle, over the Newcastle and Berwick Railway, for the London and North Eastern Railway Co. Branch Office of the Chief Engineer, North Eastern Area, Forth Banks, Newcastle-upon-Tyne.

MARCH 15.—**Leicestershire.**—BRIDGE.—For the widening of Sawley Cut Bridge, situated between Long Eaton and Castle Donington, for the Leicestershire C.C. Mr. J. E. Blackwall, County Surveyor, Grey Friars, Leicester.

MARCH 15.—**Lynton.**—SEWER PIPE.—For 282 ft. of 15 in. cast-iron sewer pipe, for U.D.C. Mr. A. F. Gibbs, surveyor, Town Hall, Lynton.

MARCH 17.—**Cheltenham.**—ROAD PLANT.—For plant for manufacture of asphaltic material, for the T.C. Borough Engineer, Cheltenham.

MARCH 17.—**Derby.**—BRIDGES.—(1) New bridge over River Dove near Monks Bridge on the Derby-Burton main road; (2) new bridge over the River Derwent at Baslow; (3) widening of bridge over the River Derwent at Rowsley; (4) new bridge over the Chesterfield Canal at Killamarsh, for the Derbyshire C.C. Mr. J. W. Horton, County Surveyor, Derby. Deposit, £2 2s. each.

MARCH 17.—**Soyland.**—BRIDGE.—Widening in ferro-concrete of Slitheroe Bridge, carrying the Oldham and Ripponden main road over the River Ryburn, within the Urban Districts of Soyland and Rishworth, for the West Riding C.C. West Riding Surveyor, County Hall, Wakefield. Deposit £1.

MARCH 17.—**Swansea.**—BRIDGE.—Construction of new ferro-concrete bridge over the River Lliw at Gorseinon, for the R.D.C. Messrs. Morgan, Davies & Partners, civil engineers, 62, Wind-street, Swansea.

MARCH 19.—**Clacton-on-Sea.**—GROYNE.—For the construction of a concrete and timber groyne on the East Beach, for the U.D.C. Surveyor, Council Offices, Clacton.

MARCH 20.—**Congresbury.**—BRIDGE.—For the diversion of the main road and the River Yeo, and construction of reinforced concrete bridge at Congresbury, for the Somerset C.C. Mr. E. Stead, County Surveyor, 40, High-street, Weston-super-Mare. Deposit £2 2s.

MARCH 24.—**Middlesbrough.**—DOCKS, &C.—Construction of docks, wharves, landing-places, &c., at the site of the Ferry, for the T.C. Mr. Preston Kitchen, Town Clerk, Municipal Buildings, Middlesbrough. Deposit £5.

MARCH 24.—**Teignmouth.**—GAS WORKS EXTENSIONS.—(1) Retaining wall, 190 ft. long; (2) retort house and bench of 18 horizontal retorts; (3) carburetted water gas plant; (4) high pressure gas plant; (5) to lay a 4 in. steel main across the bed of the River Teign, for the U.D.C. Mr. H. Higham, Gas Engineer, Teignmouth.

MARCH 31.—**Egypt.**—PUMPING PLANT.—Supply and erection of a pumping plant at Boseili, for the Egyptian Ministry of Public Works. Inspecting Engineer, Egyptian and Sudan Governments, Queen Anne's Chambers, Westminster, S.W. 1.

APRIL 12.—**Wallingford.**—HEATING.—For the installation of new calorifiers, mains and accessory works in connection with the heating apparatus at the Institution of the Board of Guardians. Mr. P. C. A. Slade, Clerk, Union Offices, Wallingford, Berks. Deposit, £5 5s.

MAY 1.—**China.**—BRIDGE.—**The Commercial Councillor at Peking has forwarded to the Department of Overseas Trade copies of the official text of a call for tenders by the Hai Ho Conservancy Commission, for the erection of a bridge over the Hai Ho at Tientsin. Tenders must be in the hands of the Commission before noon on May 1, 1924. The cost of erecting the new bridge has been roughly estimated at Tls. 700,000, say £105,000. Department of Overseas Trade, 35, Old Queen-street, S.W. 1. Reference 11647/F.R./E.C./2.**

MAY 1.—**Egypt.**—ROOFS, &C.—Construction of steel roofs and shelter of Alexandria new station, for the Egyptian State Railways. Inspecting Engineer, Egyptian and Sudan Governments, Queen Anne's Chambers, Broadway, Westminster, S.W. Charge £6 3s.

JULY 1.—**Chili.**—HARBOUR WORKS.—For the work of improvement of the Harbour of Constitucion, Chili. Chilian Legation, 22, Grosvenor-square, W.1.

ROAD, SANITARY, AND WATER WORKS.

MARCH 8.—**Doncaster.**—WATER MAINS.—For the extension of water mains at Edlington, for the R.D.C. Mr. W. R. Crabtree, Surveyor, Nether Hall, Doncaster.

MARCH 8.—**East Dean.**—WATER MAINS.—For work of laying water mains over Soudley Brains Green and Blakeney Hill, on the south side of East Dean, and over Plump Hill, for R.D.C. Mr. W. Whitehouse, surveyor, Cinderford, Glos. Deposit £2 2s.

MARCH 8.—**Glamorgan.**—REPAIRS TO ROAD.—For carrying out for the Glamorgan Agricultural Committee repairs to the Drive, near Llandow Halt and Southerndown-road Station. Wages and hours clauses in contract. The County Land Agent, 30, Park-place, Cardiff.

MARCH 8.—**Heysham.**—ROADS.—For the widening of Longlands-lane and Crimewell-lane, for the U.D.C. Mr. H. Miller, Surveyor, Council Offices, Heysham. Deposit £1 1s.

MARCH 8.—**Neath (Glam).**—CONSTRUCTION OF SEWERS.—For constructing for the R.D.C. storm-water sewers, laying and jointing earthenware pipes, erection of manholes, gulley gratings, laying kerbing, channelling, paving, ballasting, and metalling, &c., required by private street works, with all other works requiring to be done in reconstruction of Rugby-street and Railway-terrace, Resolven. Mr. D. M. Davies, Surveyor, Council Offices, Neath. Deposit £2 2s.

MARCH 8.—**Northallerton.**—ROADS.—For surface treatment of 400 miles of main roads, for the North Riding of Yorkshire C.C. County Surveyor, Northallerton.

MARCH 10.—**Bradfield.**—ROADS.—For the repair of the district roads, for the R.D.C. Mr. C. Ford, Highway Surveyor, Station-road, Theale.

MARCH 10.—**Cambridge.**—SEWERS.—Construction of a sewer consisting of 500 yds. of 12 in. pipes and 1,828 yds. of 9 in. pipes, together with the necessary manholes, &c., from Cherry Hinton-road to Long-road, for the Corporation of the Borough of Cambridge. Borough Surveyor, Guildhall, Cambridge. Deposit £2.

MARCH 10.—**Clutton.**—ROADS.—For steam rolling, for the R.D.C. Surveyor, Hallatrow, near Bristol.

MARCH 10.—**Todmorden.**—ROADS.—For three road-widening schemes, for T.C. Mr. H. Crabtree, Borough Surveyor, Municipal Offices, Todmorden. Deposit £2 2s.

MARCH 10.—**Tynemouth.**—ROADS.—For private improvement works, for the T.C. Mr. John F. Smillie, Borough Surveyor, Tynemouth.

MARCH 10.—**Wakefield.**—ROADS.—(1) Treatment of 80 miles of road with bituminous dressing; (2) treatment of 80 miles of road with tar to Road Board Specification No. 1, and supply of materials to the West Riding C.C. West Riding Surveyor, County Hall, Wakefield.

MARCH 10.—**Wallingford.**—SEWAGE WORKS.—For construction of (1) engine house, pump well, filters, &c.; and (2) reinforced high level tank, at Didcot, for the R.D.C. Messrs. Howard Humphreys & Sons, 28, Victoria-street, S.W. Deposit £3 3s.

MARCH 10.—**Yeovil.**—WATER MAIN.—Laying two miles of 5 in. cast-iron water main, with a meter chamber, at Martock, for the R.D.C. Messrs. Martin & Roberts, 44, St. George's-square, Westminster. Deposit £2 2s.

MARCH 11.—**Barnsley.**—SANITARY.—Conversion of privies into water closets in the Oxford-street and New-street area, Ardsley, for the T.C. Borough Engineer, Fairfield House Offices, Barnsley.

MARCH 11.—**Cramlington.**—SEWAGE WORKS.—For the construction of clinker sludge floor, providing and laying cast-iron and sanitary pipes (about 300 lin. yds. in all), and the erection of a small shed at the sewage works at Hartford, for the U.D.C. Mr. A. S. Dinning, 21, Ellison-place, Newcastle.

MARCH 11.—**Deal.**—ROAD WORK.—Widening Beach street, road, footways and parade, and constructing retaining walls for same, for the Corporation of the Borough of Deal. Borough Engineer and Surveyor's Office, 18, Queen street, Deal.

MARCH 11.—**Dublin.**—WATER MAIN.—For providing and laying a water main and accessories, for the R.D.C. Mr. G. Gallagher, Clerk, 1, James's-street, Dublin.

MARCH 11.—**Glasgow.**—ROADS.—Reconstruction of main road from Langloan to Airdrie, for the T.C. Mr. James Dalrymple, 44, Bath-street, Glasgow. Deposit £2 2s.

MARCH 11.—**Hoo.**—ROADS.—For widening and re-surfacing of 1,538 yds. of road, including the construction of 403 yds. of new roadway, for the R.D.C. Mr. J. Harvey, surveyor, Star Elm House, near Rochester. Deposit £.

MARCH 1[illegible].—**Leeds.**—ROADS.—(*a*) Paving and concreting, &c., of portions of highway in Roundhay-road, Water-lane, Foster-street, Kirkstall-road; (*b*) paving and concreting, &c., of portions of tramway track in Kirkstall-road, Elland-road; (*c*) granited rock asphalte surfacing (labour and material) in Kirkstall-road. Highways and Permanent Way Engineer, 1, Swinegate, Leeds. Deposit £1 1s each schedule.

MARCH 11.—**Leeds.**—ROADS.—(1) Making-up various private streets; (2) making-up streets on the Meanwood and Hawksworth Wood housing estates; (3) laying of granited rock asphalte at the North and South-street improvement, for the T.C. Highways and Permanent Way Department, 1, Swinegate, Leeds. Deposit £1 1s. each section.

MARCH 11.—**Rochdale.**—SEWER.—For construction of 780 yds. of 36 in. and 30 in. diam. outfall sewer, with cast-iron and reinforced concrete pipes, together with 30 yds. of brick sewer 9 ft. diam., and an overflow chamber, for T.C. Mr. S. H. Morgan, Borough Engineer, Town Hall, Rochdale. Deposit £5 5s.

MARCH 12.—**Birmingham.**—DEEPENING BROOK.—For deepening brook of a length of about 1,184 yds. of the Hockley Brook, for the T.C. Mr. H. H. Humphries, City Engineer, Council House, Birmingham. Deposit £2.

MARCH 12.—**Dudley.**—ROADS.—For making-up roads, &c., at the housing estate, Dudley, for H.M. Commissioners of Works. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit £1 1s.

MARCH 12.—**Fulham.**—ROADS.—For making-up and paving Colwith-road for B.C. Mr. A. F. Holden, Borough Surveyor, Town Hall, Fulham, S.W.6.

MARCH 12.—**Guildford.**—ROADS.—Construction of reinforced concrete road, for the T.C. Borough Surveyor, Guildford. Deposit £2 2s.

MARCH 12.—**Havant.**—SEWERS.—Laying 1,000 yards lineal of 8 and 9 in. stoneware pipe sewers, &c., for the R.D.C. Mr. A. E. Stallard, Council Offices, Havant. Deposit £2 2s.

MARCH 12.—**Hemsworth.**—SEWAGE DISPOSAL.—Extensions to the New Brunswick sewage works, near Ryhill, for the R.D.C. Mr. W. T. Lynam, Engineer, Council Offices, Rotherham-road, Hemsworth. Deposit £2 2s.

MARCH 12.—**St. Thomas.**—SEWAGE WORKS.—Construction of Woodbury sewerage and sewage disposal, for the R.D.C. Mr. E. H. Quick, Surveyor, 9, Bedford-circus, Exeter.

MARCH 12.—**Yeovil.**—ROADS.—For maintenance of district roads, road rolling, &c., for the R.D.C. Mr. C. R. Harding, Surveyor, 81, South-street, Yeovil.

MARCH 13.—**Middleton.**—ROADS.—For widening the Heywood-road, for the T.C. Borough Engineer, Town Hall, Middleton. Deposit £5 5s.

MARCH 13.—**Newport (Mon.).**—HAULAGE.—For day haulage work and stone haulage for the B.C. Trade union rate of wages to be paid to employees. Engineer (Works section), Dock-street, Newport (Mon.).

MARCH 13.—**Southend-on-Sea.**—ROADS.—For making up Herschell-road (Section 1), Percy-road, Westcliff-drive, Sidney-road and Gainsborough-drive (Section 2), for the T.C. Mr. R. H. Dyer, Borough Surveyor, Municipal Buildings, Southend. Deposit £2 for each road.

MARCH 15.—**Ashbourne.**—SEWERS.—For construction of 650 lineal yds. of 9 in., and 170 yds. of 6 in. glazed stoneware sewer, &c., for the U.D.C. Mr. D. Powell, Surveyor, Council Offices, Ashbourne.

MARCH 15.—**Bude.**—SEWERS.—For laying 925 lineal yards of 9 in. stoneware pipe sewer and 164 yards of 9 in. cast-iron sewer, for the U.D.C. Surveyor, Belle Vue-avenue, Bude.

MARCH 15.—**Chichester.**—ROADS.—For surface tarring of 500,000 sq. yds. of main roads, for the West Sussex C.C. Mr. H. W. Bowen, County Surveyor, Chichester.

MARCH 15.—**Edinburgh.**—ROADS, &C.—For repairs to causeways and foot pavements and supply of road and other materials to the Roads Dept. City Road Surveyor, Edinburgh.

MARCH 15.—**Hayes.**—ROADS.—For making-up Hayes End-road (approximate length 260 yards), for the U.D.C. Mr. D. C. Fidler, Surveyor, Town Hall, Hayes, Middlesex. Deposit £2.

MARCH 15.—**Inverness.**—ROADS.—For the re-surfacing of about four miles of the Perth-Inverness main road, for the Inverness C.C. Mr. Robert L. Shinnie, District Clerk, Kingussie. Deposit £2 2s.

MARCH 15.—**Litherland.**—SEWERS.—Construction of sewers and manholes on the Moss-lane Housing Site, for the U.D.C. Mr. George Ponsford, Surveyor, Council Offices, Litherland.

MARCH 15.—**Shoeburyness, Essex.**—ROADS AND SEWERS.—Making-up, sewering, &c., a road across a portion of their housing site at Dangers, Shoeburyness, Essex, for the Shoeburyness U.D.C. Mr. E. Read, Council's Surveyor, High-street, Shoeburyness.

MARCH 17.—**Hale.**—SEWAGE WORKS.—Construction of activated sludge treatment works, for the U.D.C. Mr. G. Midgley Taylor, 36, Victoria-street, Westminster, S.W. 1. Deposit £5.

MARCH 17.—**Hampstead.**—PUBLIC CONVENIENCES.—(1) Grangeway, Kilburn, (2) West-End Green, and (3) Fortune Green, for the Borough of Hampstead. Borough Engineer's Office, Town Hall, Hampstead. Deposit £1 1s.

MARCH 18.—**Billericay.**—SEWAGE WORKS.—Construction of humus tanks, &c., at the Billericay sewage disposal works, for the R.D.C. Surveyor, High-street, Billericay. Deposit £1 1s.

MARCH 19.—**Aspatria.**—WATER WORKS.—For (1) laying of 385 yds. of 4 in. and 5 in. diameter cast-iron pipes; (2) construction of a water tower in Hennebique ferro-concrete, at Prospect, for Water Board. Mr. J. J. Davison, 6, King-street, Wigton, Cumberland. Deposit £2 2s.

MARCH 19.—**Falmouth.**—SEWERS.—For laying 5,600 yds. of concrete tube, stoneware, and cast-iron pipe sewers, for the T.C. Mr. G. Midgley Taylor, 36, Victoria-street, S.W. Deposit £5 5s.

MARCH 19.—**Hollingbourn.**—TAR SPRAYING.—For tar spraying or surface dressing 28,500 super yds. of roads, for R.D.C. Mr. F. Miskin, 33, Earl street, Maidstone.

MARCH 19.—**Torquay.**—WATER MAINS.—Laying of 4 miles of 14 in. cast-iron pipes, special castings, and ancillary works, for the T.C. Mr. Samuel C. Chapman, Waterworks Engineer, Town Hall, Torquay. Deposit £2 2s.

MARCH 20.—**Belper.**—SEWER.—For laying about 280 yds. lin. of 9 in. dia. sanitary pipe sewer at Smithy Houses, for the R.D.C. Mr. Robert C. Cordon, Surveyor Duffield, near Derby. Deposit 10s.

MARCH 20.—**Egypt.**—WATER INSTALLATION.—For water installation at Fayoum. Dept. of Overseas Trade, 35, Old Queen-street, S.W. 1. Reference, D.O.T., 12472/F.E./E.C. (2).

MARCH 22.—**Newton Abbot.**—WATER MAINS.—For laying about 5,269 yds. of 6 in. and 821 yds. of 4 in. cast-iron water mains, for the R.D.C. Mr. F. Horner, Clerk, Council Offices, 64, East-street, Newton Abbot. Deposit £2 2s.

APRIL 1.—**London.**—SEWER.—For the construction of about 1,400 ft. of 4 ft. and 2 ft. 8 in. brick sewer (mostly in tunnel), beneath St. Martin's-le-Grand and Aldersgate-street, for the City Corporation. City Engineer, Guildhall, E.C.2. Deposit £2 2s.

NO DATE.—**Kendal.**—FOUNDATIONS, &C.—For the foundations, roadways, carpenters' and plumbers' work required in connection with new works at Kendal. Mr. H. E. Scarborough, architect, 22, Lowther-street, Carlisle.

Competitions.

(*See Competition News, page* 370.)

Auction Sales, Tenders, etc.

✱MARCH 11.—**London, N. 16.**—Messrs. Joseph Hibbard & Sons will sell, without reserve, by order of the Roads Repairing Co. and others, removed for convenience of sale, in their sale rooms, at 15, Newington-green, Islington, sawmill machinery and builders' plant. Auctioneers: 15, Newington-green, Islington, London, N. 16.

MARCH 11 AND 12.—**Banbury, Oxon.**—Mr. F. H. Clark will sell without reserve at Banbury Filling Factory, Central Stores Depot, 423 (fourth section) of timber and building materials accruing from the demolition of the Filling Factory, Banbury, Oxon. Auctioneer, Railway Wharf, York-road, Wandsworth, S.W.18.

✱MARCH 11 AND TWO FOLLOWING DAYS.—**London, S.E.**—Messrs. H. W. Smith & Moon will sell, at 89, Newington Butts, S.E., unreserved sale in consequence of the retirement from business of Mr. J. E. Whiter, extensive builder's and contractor's stock, plant and machinery, selected stock of well-seasoned timber. Auctioneers, 6, Great James-street, Bedford-row, London, W.C.1.

MARCH 13.—**Bloomsbury.**—Messrs. Veryard & Yates will sell, without reserve, at one o'clock, building material arising from demolition of Y.M.C.A. "Shakespeare" Hut. Auctioneers, 365, Norwood-road, S.E. 27.

MARCH 13.—**Dagenham Dock, Essex.**—Mr. F. H. Clark will sell, in conjunction with Hubert F. Finn-Kelsey, F.S.I., F.A.I., without reserve at Dagenham Dock, Essex. Central stores Depot No. 95, buildings, timbers, and materials contained in the National Box Factory, Dagenham Dock. Auctioneers, Railway Wharf, York-road, Wandsworth, S.W.18, and Lyminge, Folkestone, Kent.

MARCH 18 AND FOLLOWING DAYS.—**Aldershot.**—Messrs. Joseph Hibbard & Sons will sell, without reserve, on the premises, Elms-road and Boxalls-lane (two minutes from Station), Aldershot, surplus stock of Messrs. George Kemp & Co., owing to amalgamation with A. H. Stroud, Esq., stock, plant, scaffolding, ironmongery, and sanitary goods, blacksmiths' material, concrete mixer, timber stocks, rolling stock. Auctioneers, 15, Newington-green, Islington, N.16.

✱MARCH 26.—**London, E.C.**—Messrs. Leopold Farmer & Sons will sell in lots, at the London Auction Mart, 155, Queen Victoria-street, E.C.4, freehold manufacturing premises and land, with valuable free water power, known as Hythe End Mills, Wraysbury, near Staines, Middlesex; the whole area of the property covers about 11 acres. Auctioneers, 46, Gresham-street, Bank, E.C.

✱MARCH 26.—**London, E.C.4.**—Messrs. Leopold Farmer & Sons will sell, at the London Auction Mart, 155, Queen Victoria-street, E.C.4, freehold building site, Tyssen-street, Dalston-lane, Dalston, N.E. Auctioneers, 46, Gresham-street, Bank, E.C.

✱APRIL 16.—**Kent.**—Messrs. Knight, Frank & Rutley will sell, at very low reserves, to wind up an estate, at the residence, Otford Court, close to Otford Station (unless previously sold privately), the residential and building property, Otford Court, the whole extending to an area of about 190 acres. Auctioneers: 20, Hanover-square, W. 1.

MAY 6.—**London, W.1.**—**Messrs. Knight, Frank & Rutley, at the Hanover-square Estate Room, situate at Wimbledon Common, within half-an-hour by motor of the Houses of Parliament. Freehold, Edgecombe Hall, Beaumont-road; extensive range of outbuildings, in all extending to over 14 acres. Vacant possession will be given on completion of the purchase. Auctioneers, 20, Hanover-square, W.1.**

Public Appointments.

MARCH 11.—**Mountain Ash (Glam.).**—ARCHITECTURAL ASSISTANT.—Architectural Assistant required in the Architect's Department by the Mountain Ash U.D.C. Education Committee. Mr. A. Morgan, Director of Education, Town Hall, Mountain Ash, Glamorgan.

MARCH 11.—**Southend-on-Sea.**—TOWN-PLANNING ASSISTANT.—Town-Planning Assistant required in the office of the Borough Engineer and Surveyor. Mr. Robert H. Dyer, Borough Engineer and Surveyor, Southend-on-Sea.

MARCH 14.—**Islington, N. 1.**—CLERK OF WORKS.—Clerk of Works in connection with the erection of extensions to the Municipal Offices of steel-framed construction with reinforced concrete floors, for the Metropolitan Borough Council of Islington. Mr. C. G. E. Fletcher, Town Clerk, Municipal Offices, Upper-street, N. 1, enclosed "Clerk of Works."

✱NO DATE.—**Sudan.**—Foreman of Works required by the Sudan Government Railways. Consulting Mechanical Engineer, Sudan Government Railways and Steamers, 5, Northumberland-avenue, W.C. 2.

✱NO DATE.—**Weston-super-Mare.**—Architectural Assistant wanted at once, with experience in town-planning work. Temporary appointment. Mr. Harold A. Brown, Engineer and Surveyor, Surveyor's Office, Town Hall, Weston-super-Mare.

A Squash-Rackets Court.

A squash-rackets court, which can be erected in a very small area, has been designed by Messrs. G. H. Carter, Ltd., of 108, Hungerford-road, N.7, and one has already been installed at the Cavendish Club. These courts have brick walls covered with a special hard and moisture-absorbing self-coloured composition, the uniformity of which gives consistent speed in play. The lighting arrangements are also uniform, with an absence of glare. It is claimed that the elastic and non-slippery nature of the floor does not tire the players, and that the total cost of installing the court is small.

TRADE NEWS.

Builders' Lorries.

The lorry illustrated below was recently built by Messrs. Leyland Motors, Ltd., to the order of Messrs. Howell J. Williams, Ltd. The chassis is a standard three-ton model, fitted with 30-32 h.p. engine. On this is mounted a special frame-sided body, the sides being 18 in. high. For carrying long timber it is fitted with a forward gantry to protect the cab. This gantry is constructed of angle iron, the sides projecting 18 in. above the crossbar to prevent lateral slipping. The central bolster is constructed in trestle form,

secured to the floor with four iron brackets; it is thus easily removable in case of uninterrupted loading space being required.

Sell's Directory.

We have received from Messrs. Sell's a copy of their Directory for 1924 (thirty-ninth year). The volume contains the names, alphabetically arranged, of some 100,000 firms in Great Britain and Ireland, together with their postal address, telephone number, trade or occupation, and registered code word. A Trade Section is included in each volume, where the name and address of some 130,000 firms are classified under 3,500 trade headings. A new departure of interest to the building trade is to be found in a separate section in the volume, entitled Sell's Building Trades List, which gives, under some 500 trade headings, the names and addresses of the leading firms engaged in the building and allied trades in Great Britain and Ireland, together with special announcements of firms giving particulars of their business.

New Woolworth Building.

Messrs. Banister, Walton & Co., Ltd., possessing extensive works, well equipped with modern plant and appliances, executed their portion of this work in record time. Among several substantial contracts which Messrs. Banister, Walton & Co. have in hand there is the new office building in Manchester for the Bleachers' Association, Ltd.

They also, of course, recently completed the new Woolworth Buildings in Liverpool.

HARRIS & WARDROP

BUILDERS & CONTRACTORS

WALLWOOD ST., LIMEHOUSE, E.14

ESTABLISHED 1869

Telephone East 152

PROPOSED NEW BUILDINGS & OTHER WORKS.*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; and B.E. for Board of Education.

ABERAYRON.—Capt. Evans, Llyswen, is to erect eight houses.

ACCRINGTON.—Alternative plans for the erection of a new pavilion and shelter at Oak Hill Park have been submitted by the Borough Surveyor, and he has been instructed to proceed to carry out one of brick rough cast estimated to cost £600.

ALDERSHOT.—Plans passed by T.C.: House, Cranmore-lane, for Mr. J. Levitt; lavatories, &c., at Assembly Rooms.

ASHTON-IN-MAKERFIELD.—Plan was approved of a proposed lay-out of streets in Gaswood Park, between Liverpool-road and Warrington-road, for the Gaswood Estate.

BEDDINGTON.—Plans passed by U.D.C.: Two houses, Croydon-road, for Mr. W. H. Upson; bungalow, Stafford-road, for Mr. E. M. Swabey; two houses and shops, London-road, for Mr. J. J. Kent.

BEDFORD.—Plans passed by R.D.C.: House and shop, Bromham, for Mrs. Webster; bungalow-shop at Chawston, for Mr. H. A. Sanders.

BENFIELDSIDE.—Application has been made to the U.D.C., with respective specifications, by the Consett Iron Co., in respect of 70 houses on the Highgate Estate; one cottage in Consett Park, and 20 houses in Durham-road, Blackfyne.

BILLINGHAM.—The U.D.C. have passed plans for the erection of eight houses in Station-road, for Mr. H. Scotson.

BISHOP AUCKLAND.—The Durham C.E.C. have resolved to ask the B.E. whether they are prepared to consider plans for the construction of a new Grammar School, at an approximate cost of £20,000.

BLEYDON.—Plans passed: Messrs. J. E. & L. E. Hetherington, Newcastle, additions to Wesleyan Chapel, Winlaton; Mr. Henry Bowers, for 20 bungalows at Rowlands Gill; Mr. G. C. Johnson, seven houses at High Spen.

BOLTON.—Plans passed by T.C.: W. Orrell, four houses, Holden-avenue; Knowles, Ltd., pavilion, Church-road; B. T. Saunders, house, Church-road; Hooton & Rigby, three houses, Abbotsford-road; N. Critchley, house, New Church-road; R. Young, house, St. Michael's-avenue; Thos. A. Scowcroft, house, Green-lane; Leigh Bros., Ltd., 10 houses, Alexander-road; W. Reddyhough, four houses, Regent-road; A. Fenton, two houses, Withins-lane; Horrocks & Andrews, two bungalows, Wheatfield-street; E. A. Le Gendre Starkie, new streets, off Colenso-road; Earl of Derby, new street off Bury-road; J. Archer, bungalow, Withins-lane; C. Reddyhough, billiard hall, Gibbon-street; Morris & Owen, two houses, Withins-lane; J. Latham, two houses, Regent-road; Wilfred Johnson, for extension to premises, Market-street; Leigh Bros., Ltd., for four houses and shops, two semi-detached villas, Chorley Old-road; W. W. Pickup, 10 houses, Roland-road; R. Shippobottom, for house and shop, Hughes-street.

BOURNEMOUTH.—Plans passed by T.C.: House, Clarence Park-road, Mr. A. Scott; house, corner of Pine-avenue and Stourcliffe-avenue, Mr. E. R. Saunders; house, corner Boscombe Overcliffe-drive and Dingle-road, Mr. R. J. M. Nabney; house, St. Ledger's-road, Mr. C. V. Miller; two houses, Burleigh-road. Mr. M. Sellick; house, Namu-road, Mr. W. Stark; five houses, Elmes-road, Messrs. Jones & Sims; house, 32, Iddesleigh-road, Mr. J. South; house, St. Luke's-road, Mr. A. Barnes; house, Bethia-road, Miss E. M. Southgate; house, King Edward-avenue, Mr. G. Jones; house, College-road, Mrs. M. Carnegie; two houses, Carbery-avenue, Mr. J. Scott; two houses, Glenmore-road, Messrs. F. W. Burton & Sons; house, Chigwell-road, Mr. C. Newton; house and garage, Seafield-road, Mr. W. Hoare; two pairs of houses, Section A, Shirley-road, Mr. J. Drewitt; house and garage, Pinecliffe-avenue, Mr. C. F. Gowland; house and garage, Dingle-road, Mr. R. J. M. Nabney; house and garage, Grand-avenue, Mr. R. J. M. Nabney; house, Harewood-avenue, Messrs. Midgley & Hardy; house, Watcombe-road, Mr. H. Filmer; house, Danesbury-avenue, Mr. H. Hewitt; house, Watcombe-road, Mr. A. Williams; house, Irving-road, Mr. A. Barrett; house and garage, Belle Vue-road, Mr. G. B. Barnes; three houses, Court-road, Mr. W. Moore; house, Chessel-avenue, Miss Sutcliffe; house, Irving-road, Mr. R. C. Slingsby; two houses, Sutton-road, Mr. R. Vickers; two houses, Green-road, Mr. G. C. Roberts; two bungalows, Namu-road, Mr. G. H. Burt——In connection with the Pavilion Scheme, the Pavilion Committee recommends that tenders be invited for clearing the site of existing buildings.— The Christchurch B.G. has decided to make application to the M.H. for sanction to expend some £6,000 in enlarging the nurses' home at the Institution, and £785 in respect of the extension of the aged women's quarters.—The Council is applying to the M.H. for sanction to a loan of £4,500 for subsidies for 60 houses. A tender of £1,350 per block for seven blocks each of four houses is to be accepted, subject to approval of the M.H., which is to be asked to sanction a loan of £10,000 for the purpose.—The Bournemouth E.C. is asking the B.E. to approve the enlargement of the Stourfield Council School by an additional block of buildings; and the T.C. is to be asked to obtain the necessary sanction for a loan of £1,464 for adapting Lowther-road Hospital as a secondary school.——Mr. P. M. Crosthwaite, an inspector under the M.H., has held an inquiry into the application of the T.C. to borrow £30,000 for the construction of a new sewer outfall at Southbourne.

BRADFORD.—The City Council has decided to carry out a scheme of alterations to Usher-street School and Sandy-lane School, by making the former into four separate dwellings and the latter into three separate dwelling houses.——An important scheme is also to be carried out at the junction of Manchester-road and Little Horton-lane.

BRIDGEND.—The Council is to put in hand immediately work of constructing two foot bridges to recreation ground and will borrow £1,000, the sum estimated to be cost of construction. Other U.D.C. schemes, with estimates of cost, to be proceeded with shortly are Litchard sewer, £2,425; Brynteg sewer, £510; and Glanogwr sewer, £2,000 to £3,000.

BRIDLINGTON.—The M.H. has intimated that he is prepared to issue a provisional order for the extension of the Royal Prince's-parade, and for acquiring certain properties in connection therewith.

BRINSLEY.—Notts E.C. has approved of additions to the Council School, estimated to cost £2,100.

BROMLEY.—Plans passed by R.D.C.: Mr. E. C. Woods, house, World's End-lane, Chelsfield; Mrs. A. L. Summers, house, Footbury Hill-road, Orpington; Mr. J. Kent, three new streets, Grosvenor-road, Elysian-avenue, and Sutherland-avenue, Ladywood Estate, Chislehurst-road, Orpington; Mr. G. Williams, house, Crofton-lane, Orpington; Mrs. L. E. Murphy, bungalow at Strathcona, Sutherland-avenue, Cudham; Mr. J. W. Beagley, bungalow, Norheads-lane, Cudham; Mr. V. Bendall, bungalow, Village Green-avenue, Cudham; Mr. C. N. Cubitt, house, Barnet Wood-road, Hayes; Lord Avebury, conservatory, High Elms, Downe; Mr. E. Morris, bungalow, Main-road, Leeson's Estate, St. Paul's Cray.

BURNHAM-ON-CROUCH.—Messrs. Howes & Belcher, architects, of Westcliff, have forwarded to the U.D.C. a plan showing the suggested lay-out of the land on the river front to the west of Burnham, which Burnham Estates, Ltd., have acquired from the executors of the late Mr. B. Weekes. The company propose to build houses of a fairly good class on the river front, to sell at about £1,000 each, and to build houses, with large gardens, on the back land to sell at about £650 to £750.

BURNLEY.—The T.C. has been recommended to extend an improvement scheme at Glen View-road as far as Reynolds-street, at an estimated cost of £1,800. It is subject to a grant of 60 per cent. towards the wages' bill of unemployed men take on for the works.

BURY.—There has been a revival of the question of the erection of a town hall for Bury. The matter has been discussed by the Parliamentary, Furnishing, &c., Committee.

BUXTON.—Considerable extensions are proposed to the "Cat and Fiddle" Hotel to provide accommodation as a residential hotel.——The Bench has approved the plans for the proposed alterations to the Devonshire Hotel, submitted by Mr. H. R. P. Lomas.

CAERPHILLY.—The U.D.C. has agreed to terms for land acquisition for the purpose of erecting new Council offices and other public buildings.

CARMARTHENSHIRE. — The County Education Authority is to erect new school for 400 children at Llangennech.—The Lampeter Council is considering a comprehensive water supply scheme.

CASTLEFORD.—Plans passed: Two bungalows, Wheldon-lane, for the Yorkshire (West Riding) Tramways Committee; four houses and lock-up shop, Leeds-road, Castleford, for Mr. L. J. Gallagher; house, Smawthorne-lane, for Mrs. Belwood; house, St. Helen's-place, for Mr. H. England; slaughter-house, making-up room, &c., off Carlton-street, for the Castleford Co-operative Industrial Society, Ltd.

CHEADLE.—The U.D.C. has passed plans submitted by H. Simon, Ltd., for new works; and by the Oil Well Engineering Co., for an extension of works.——Mr. G. Westlake has submitted a plan of the lay-out of the Highgrove Estate.

CHESTERFIELD.—The Improvement Committee have approved the lay-out plans of the site and detail plans of buildings on the Chester-street town-planned area, in connection with the scheme of the Chesterfield Miners' Welfare Fund Society. The buildings will be of one story, and the principal will be a lecture hall to seat 350. In other parts of the institute will be a billiard-room, smoke-room, games-room, and reading-room. The main entrance will be in Ashgate-road, but the institute will abut upon a new road, to be named Springfield-avenue, giving direct communication with the Brampton district.—It has been decided to carry out a scheme of extension to the Royal Hospital with a new wing, which will comprise a new ward.——An annexe is to be added to Holywell House to accommodate the additional nursing staff, and the main kitchen is also to be enlarged.

CHORLEY.—The B.G. has decided to erect a mortuary at an estimated cost of £500.

CLITHEROE.—A plan of a bungalow to be erected near Chipping, for Mr. F. Hoyle, was approved by the R.C.

CONSETT.—The U.D.C. is proposing to obtain sanction from the M.H. for the erection of an additional 100 houses. The Council's architect, Mr. F. A. Coyle, has prepared plans and specifications for the houses, which are to be built at a low figure, the smaller type being estimated at £288 and the larger type at £335 each.

CROYDON.—Plans passed by T.C.: F. W. Cattermole, eight houses, and four houses and garages, Stanford-road; R. Weller, seven houses, Waddon and Courtney-roads; Holborow & Son, two houses, Pollards Hill South; F. Windsor, house, Manor Way; C. S. Banks, six houses, Moriand-road, next No. 223; F. Robinson, two houses, Whitehorse-lane; T. H. Burgess, 10 houses, Grecian-crescent; Clout & Tysoe, 18 houses, Mayfield-crescent and Mayfield-road; F. H. Willcocks, two houses, Pollards Hill South; Paish, Tyler & Crump, two houses, 34 and 36, Selwood-raod, two houses, Fryston-avenue, and four houses, Addiscombe-road; J. Larner & Sons, converting house into two maisonettes, 260, South Norwood Hill; S. H. Laver, three shops, London-road, Norbury, 1 to 3, College Parade; S. Jefferis, 12 houses, Livingstone-road; L. White, seven houses, Totton-road; S. H. Palmer, store for builders' plant, Cliffe-road; J. S. Campbell, mess and packing rooms to laundry, 120, Selsdon-road; G. Bland, 12 houses, Limpsfield-avenue; Young & Macintosh, 24 houses and 23 garages, The Chase, Norbury; A. E. Stanger, house, Crown-lane. — The Housing Committee is promoting a new scheme for building cottages on its estate of 60 acres at Waddon, which was acquired.

DARLINGTON.—The R.D.C. have approved plans submitted as follows: Twelve houses at Barmpton-lane, and four houses at Whinfield, for T. E. Dougal; two houses at Neasham-road, for J. W. Redford; bungalow, for A. G. Cramp; two houses at Middleton-one-row, for J. W. Richardson; two houses at Denton, for Lord Barnard; 12 houses at Middleton St. George, for Mr. J. F. Bainbridge; bungalow at Yarm-road, for T. Turnbull; bungalow at Yarm-road, for A. Graham; two houses at Yarm-road, for H. Blackett; house at Station-road, Hurworth, for J. Smith; and four houses at Station-road, Fighting Cocks, for G. M. Graham.——The E.C. have received sanction from the M.H. for the appropriation of a site at Cockerton for the purpose of erecting a public elementary school.——The B.G. has decided to extend the Nurses' Home.

DERBY.—The E.C. is asking the T.C. to sanction plans for a new school on the Nightingale-road site.

DEWSBURY.—The Education authorities have decided to proceed with the erection of a new elementary school at Myrtle-road, Ravensthorpe.

DONCASTER.—The Brodsworth Main Colliery Co. has commenced operations with the erection of 550 houses on the Doncaster house site at Woodlands Model Village.

DUDLEY.—Plans passed by T.C.: Mr. D. Jakeman, two houses, Stourbridge-road, Scotts Green; Messrs. J. Duffy & A. E. Darby, two houses, Westley-street; Mr. James Dunn, bungalow, Gammage-street.

DUNDEE.—Plans and sections of proposed new buildings, &c., have been lodged at the office of the City Engineer: Glamis-road, house and garage, for W. Stirling Draffen; Lochee-road, institute, &c., for J. Sharp & Sons, Ltd.; Macdonald-street, governor's house, for the Dundee Gas Commissioners; Magdalen Yard-road, additions for the Managers of the Dundee Royal Institution for the Blind.

EARLESTOWN.—The vicar and wardens of St. John the Baptist's, Earlestown, were granted a faculty to complete the church by the addition of one bay and a tower, with bells and clock, at the west end. It was not intended to proceed at present with the erection of the tower beyond the height of the nave. The work now to be put in hand will cost from £3,500 to £4,000.

EASINGTON.—The B.G. are preparing a scheme for the erection of a new nurses' home.

EASTBOURNE.—The R.D.C. has granted a subsidy in respect of six houses to be erected by Mr. J. T. Wenham, at Priory Orchard, Langley.

EDINBURGH.—The Dean of Guild Court have passed the following petitions: Miss K. B. Anderson, bungalow at Woodhall-road, Colinton; G. W. Campbell, two semi-detached houses at Alnwickhill-road; T. S. Henderson, three bungalows at Blackhall; J. M'Gavin, three bungalows at Templeland-road, Corstorphine; Wm. Stewart, double bungalow at Riversdale-road, Corstorphine; R. A. Wilson, bungalow at Hyvot's Bank, Gilmerton; T. Young, bungalow at Saughton-road, Corstorphine; R. W. Forsyth, Ltd. extensive new buildings at 31-32, Princes-street and 3, St. Andrew-square.

EDMONTON.—A proposed lay-out plan for 250 houses at Park-avenue and Village-road, Bush Hill Park, has been approved by the U.D.C. The plan was deposited by Mr. L. Brown, on behalf of Mr. G. H. Stacey. Another plan deposited by the same gentleman, for the erection of 50 houses by Mr. Stacey, in the roads mentioned, has been passed also.

EPSOM.—The Council has provisionally agreed to erect 74 cottages in various parts of the area.

FELTHAM.—The Middlesex C.C. intends to provide a new school for 400 children.

FLANDERWELL.—The Dalton Main Colliery has decided to build 200 houses at Flanderwell on a site bordering the Dalton Brook, Ravenfield and Bramley parishes.

FOLESHILL.—Plans passed by R.D.C.: G. Pickering, 8 houses at Bedworth.

GLAMORGAN.—The Port Talbot B.C. Highways Committee recommends the Council to erect beach shelters to accommodate 1,000 people.

GLOSSOP.—Plans passed by T.C.: Pair of semi-detached houses, Newshaw-lane, for Mr. G. Guthrie and Mr. Albert French; pair of semi-detached houses, Ashes-lane, for Mr. Samuel Goddard.

GREASBOROUGH.—The U.D.C. has decided to seek the sanction of the M.H. to a loan of £6,800 for works in connection with the provision of the new sewage works to serve the village, and the Mangham area.

GREENOCK.—The Governors of the Ebe Infirmary have decided to proceed with the £5,000 extension scheme.

HARTLEPOOL.—Plan passed: Fitting shop and offices, for Irvine's Shipbuilding and Dry Docks Co.

HASLINGDEN.—Application has been made to the M.H. for sanction to the conditional purchase as sites for houses of land near Whitlet-street, the old football field, and land at Rising Bridge.

HEMSWORTH.—The M.H. has authorised the R.D.C. to proceed with the erection of a further 100 houses.

* See also our List of Contracts, Competitions, etc.

HURSLEY.—Plans passed by R.D.C.: House, Kiln-lane, Otterbourne, for Miss Lovegrove; house, Shaftesbury-avenue, Chandler's Ford, for J. W. Mann; house, Shaftesbury-avenue, Chandler's Ford, for W. Harris; house, North End, Chandler's Ford, for W. Bendell; house, Southampton-road, Chandler's Ford, for G. G. Edwards; bungalow, Baddesley Common, for J. Bishop.

ILFORD.—Plans passed by U.D.C.: Milbourne & Co., two houses and garages, 96-98, The Drive; E. Meredith, house and shop, Becontree-avenue; D. J. Barwell, six houses, 40-50, St. Luke's-avenue; Cottee & Parker, two houses and garages, 28-30, Wards-road East; Mrs. M. A. E. Jay, house, "The Billet," Longbridge-road; L. Barnes, eight houses, 1 to 6, Norman-terrace, Ilford-lane and 2A to 4A, Norman-road; E. Cannell, alterations to Pioneer Market, Ilford-lane; P. E. Brand, Ltd., house and shop and 16 lock-up garages, Beehive-lane; P. E. Brand, Ltd., six houses, 1 to 6, Chaucer-gardens; L. & N.E. Rly. Co., three lock-up shops, 1 to 3, Station Bridge, Seven Kings; S. A. McLean, house, 1A, Mitcham-road; P. E. Brand, Ltd., 29 houses, 2-58, Ethelbert-gardens; Sunnyside Development Syndicate, block plan of houses, 265-281, Kingston-road; F. D. Pipe, meeting-hall, Clements-road.

ILKESTON.—Plans passed by T.C.: Four houses, Church-street, Messrs. Stapleton & Sons; house, Little Hallam-lane, Mrs. L. E. Hallam; two houses, Manor-lane, Messrs. J. Briggs & Co.; house, New Lawn-road, Miss M. Wilson; house, Charlotte-street, Mr. S. Clemerson; two houses, Cantelupe-road, Messrs. Stenson & Chapman; bungalow, Little Hallam-lane, Mrs. L. E. Hallam; two houses, Little Hallam, Mr. Jas. Cooper.

KENDAL.—Plans passed by T.C.: House, Murley Moss, Oxenholme-road, Mr. W. M. Harris; extension of warehouse, Elephant-yard, Stricklandgate, for Messrs. D. Livingstone & Co.; warehouse, Benson-green, Stricklandgate, for Mr. W. D. Hayton; two cottages, Howard-street, Mr. Wm. Corbett; two cottages, Serpentine-terrace, for Messrs. Wm. Dixon & Son.

KILLAMARSH.—The C.C. has decided to construct a new bridge at Rock Hill with a total width of 39 ft.

LAWRENCEKIRK.—Plan passed by T.C.: Bungalow, Garroch-street, for Mr. A. Adamson.

LEEDS.—The Corporation Library and Art Gallery Committee have decided upon a site near the present housing developments at Harehills Terminus on which to erect a new branch library. Plans are to be prepared and tenders invited forthwith.——The Highways and Permanent Way Departments are inviting tenders for a very large area of roadway work, amongst which is included a large area of granited rock asphalte paving.

LEYTON.—Plans passed: H. E. Gardiner, six houses, Colchester-road.

LIVERPOOL.—Plans passed: Orchard-lane, for A. L. Roxburgh, bungalow and garage; Holly Field-road, for Edward Townley, 23 houses; Aigburth-road, for C. Frederick, houses and garage; Townsend-lane, for G. Linacre, garage and house; Sinclair-drive, for T. Jones, two houses and garage; Garston Old-road, for H. J. Thomas, house; Mill Bank, for J. Lathom, house; Carnatic-road, for J. G. G. Johnston, house and garage; Lime-street, for City Billiard Co., conversion into billiard hall; Scotland-road, for Robinson Brewery Co., rebuilding of public house; Wavertree Nook-road, for R. Cleagh, four houses and shops; Greenhill-avenue, for T. W. Thomas, eight houses; Menlove-avenue, for Roberts, Jones & Co., two houses and garage; Courtland-road, eight houses; Queen's-drive for T. Jones, house and garage; Greenhill-road, for Roberts & Sloss, 10 houses; Whitehedge-road, for J. W. Griffiths, three houses; Warnerville-road, for Serrett & Davies, four houses; Stanley-gardens, for W. H. Furphy, 52 houses; Queen's-drive, for J. R. Ruddock, 10 houses; Derby-lane, for J. R. Ruddock, 14 houses; Corinthian-avenue, for J. R. Ruddock, 11 houses; Florantine-road, for J. R. Ruddock, 32 houses; Pallaviz-road, for J. R. Ruddock, 7 houses; Dacre-road, for J. R. Ruddock, 10 houses; Cornice-road, for J. R. Ruddock, three houses; Orchard-lane, for R. Musgrove, two houses; Whitehedge-road, for Hugh Hughes, 22 houses; Grey Drive-road, for W. Cousins, house; Garden-lane, for V. Porter, four flats; Silver Beach-avenue, for J. Darcy & Son, six houses.

LLANDUDNO.—The Board of Management submitted plans for extension and reconstruction, which would cost nearly £7,000, and provide room for seventeen more beds. The proposal was unanimously agreed to.

LLANELLY.—The B.C. has in consideration the following schemes:—Erection of school clinic, maternity home, public slaughter-house, erection of new school at Llanerch, improvement of Thomas-street.

LONDON (WOOLWICH).—The Commissioners of His Majesty's Works have decided to purchase land on the East Wickham Building Estate, Churchfield, and Lodge-lane, for the purpose of housing workers in the Arsenal.

LONDONDERRY.—The Committee of Management of Londonderry City and County Infirmary proposes to build an additional wing to the institution. The nurses' quarters will be enlarged so as to provide accommodation for the matron and twenty-five nurses, as well as the domestics. This will occupy the two floors, and the third floor will be used as private wards, containing a hundred beds.

LYTHAM ST. ANNES.—The Parks and Pleasure Grounds' Committee have considered the question of developing the land adjoining the Fairhaven Lake.

MANCHESTER.—The Manchester Parks' Committee have decided to erect bowl-houses and tennis pavilions, &c., at Broadhurst Park, Green Bank Park, Debdale Park, Bradford Recreation Ground, Choriton-cum-Hardy Recreation Ground, Platt Fields, and a boat-house at Platt Fields, at a total cost of £11,345.

MERTHYR TYDFIL.—The B.C. has decided to apply for grants to carry out the following works:—(1) New road from Brynteg to Queen's-road; (2) connecting road between Winchfawr and Aberdare-road. The estimated cost of two schemes is £1,850. The Council will also embark on following works:—(1) Road widening on main road Merthyr Vale to T.V.R. station; (2) widening of main road at Fiddler's Elbow, Quaker's Yard, and (3) erection of new bridge over Taff river at Pontyrhun, Troedyrhiw.—The Council has called for estimates of a housing scheme for Dowlais district.

MONMOUTHSHIRE.—The Bedwas and Machen U.D.C. has received plans for houses to be erected by the Bedwas Navigation Colliery Co. for its workmen.—The Tredegar Council has approved plans submitted by Mr. W. Edgar Jones for proposed new institute and workmen's hall, to be erected by the Glanhowy School.

NEWARK.—The T.C. has decided to carry out a very important improvement scheme at the junction of the five cross roads at Beumond Cross. The adjoining property has been acquired and will be demolished to permit of the new curb line being set back a considerable distance.

NEWCASTLE.—With a view to completing two sections of the Walker Estate, the Housing Committee are recommending the City Council to invite tenders for the erection of 142 houses, and that these be obtained at a price not to exceed the housing architect's estimate of £59,816. They are also recommending the securing of tenders for roads and sewers, which are still uncompleted.——The B.E. has intimated to the E.C. they can proceed with the immediate erection of the Heaton Secondary School for 500 boys and 500 girls. The scheme will involve an expenditure of about £80,000.

NOTTINGHAM.—The Public Libraries and Museum Committee of the T.C. are recommending the erection of two new public branch libraries, one at Vernon Park, Basford, and the other for the Radford and Lenton districts, the estimated cost of both is £16,514.——It is also proposed to erect new public baths at Radford, constructed to permit of conversion into a public hall, estimated cost £7,700.——The E.C. has approved of the following: Two additional class-rooms at Haggonfields C. School, Worksop, at an estimated cost of £9,080.

OLDHAM.—Reconstruction, alteration and extension of accommodation in connection with the public lavatories in Market-place, Oldham, is projected by the Carrying and Cleansing Committee, at an estimated cost of £3,000. The Surveyors and Buildings Committee considered plans for 50 houses proposed to be erected at Greenacres. The Oldham Industrial Co-operative Society have in view the erection of a new roof on the Co-operative Hall and the extension of the premises across Marsland-street.

PEMBROKESHIRE.—The R.D.C. has submitted for approval and grant road schemes estimated to cost £2,875, and has applied for separate loan to proceed with reconstruction of Milford-Neyland road.

PRESTON.—In order to straighten out the awkward dog-leg turn in the new arterial road at Deepdale-road, Preston, the Corporation have decided to remove the existing lodge of the isolation hospital and set back the boundary of the hospital grounds in line with the northern boundary of the road. A new lodge and gates will be erected in the hospital grounds.—The Lancashire C.C. has been authorised to make provision for a new church, at a cost of between £3,000 and £4,000.—The Members of the Woodplumpton and District Village Club are proposing extensions to the club premises.

PORTSMOUTH.—A proposal to establish a cripples' hospital for the borough is under consideration, the idea being either to build an addition to the Royal Portsmouth Hospital or to erect a separate building on Portsdown Hill.—The B.C. is to widen the London-road by purchasing property from the War Department, the cost being estimated at £10,000, which the M.H. is to be asked to sanction.——The Beach Committee is considering the erection of one-roomed bungalows facing the sea on land near Southsea Castle and Clarence Pier.

READING.—The E.C. has approved a scheme for the rebuilding of Kendrick Girls' Secondary School at a cost of £20,500.

REDCAR.—The T.C. have received approval from the M.H. to purchase 20 acres of land for housing purposes, at a cost of £6,750. It was decided to ask permission to proceed with the erection of 100 houses.

ROSSINGTON.—The Main Colliery Co., Ltd., has notified the Doncaster R.D.C. of their intention to erect a large number of houses on the east side of the village of Wadworth.

ROTHWELL.—Plans passed by U.D.C.: House, for Mr. W. Brown; house, for Mr. Bedford; two houses, for Mr. Wilson; house, for Mr. B. Ward; house, shop and lock-up shop, for Mr. Hopton; housing site, Leadwell-lane, for Messrs. J. & J. Charlesworth & Co., Ltd.

RYE.—The T.C. has decided to approach the M.H. in regard to the rebuilding and widening of Tillingham Bridge.

SALFORD.—Plans passed by T.C.: Conversion of dwelling-house into shop and dwelling-house, 26, Great Clowes-street, Broughton; construction of lecture room, nurses' home, Hope Hospital, Eccles Old-road, Pendleton.

ST. HELEN'S.—The justices have agreed to the rebuilding of the "Nag's Head," Eccleston-street, for Greenall, Whitley & Co.

SHOREHAM.—An expenditure of over £4,000 has been sanctioned by Shoreham and Lancing Sea Defence Commissioners for groyning the eastern end of the foreshore.

SOUTHAMPTON.—Another church building scheme, which is meeting with support, is for the building of a permanent church of St. Agnes, with a seating capacity of 1,000, at an estimated cost of £20,000. It is still hoped by the Council that the M.H. will sanction the purchase of Byams Estate, Marchwood, for an isolation hospital site, at an estimated cost of £11,500.

SOUTHEND-ON-SEA.—Plans passed by T.C.: Five houses, The Grove, L. J. Simpson; bungalow, Theobalds-road, Twitchett & Co.; two bungalows, Oliviadrive, W. A. Gardner; house, Honiton-road, W. Ashley; bungalow, Ely-road, W. T. Cusdin; two houses, South-avenue, M. H. Fance; two houses, Marine-avenue, Leigh, Allen & England; bungalow, Burlescombe-close, F. W. Goldsworthy; four houses, Leighton-avenue, H. H. Puzey; two houses, Prittlewell-chase, Mrs. F. S. Best; three houses, Tankerville-drive, T. E. Gill; conversion of house into shop, London-road, A. A. Cardwell; lock-up garages, Leigh-road, Herritage, Bishop & Herritage; house, Chalkwell-avenue, G. A. Spencer.

SOUTHPORT.—Consent has been obtained from the M.H. for the granting of subsidies to enable the Corporation to make arrangements for the erection by private persons of 200 additional houses in the borough, and application has been made for sanction to borrow £10,000 for the purpose. Fifty of the houses will be built at Sandon-road, Birkdale. Plans and estimates are to be prepared for the erection of fifty small houses.——Application is to be made for sanction for a loan of £75,000, for the erection of an isolation hospital.

SOUTHWELL.—The R.D.C. has made application to the M.H. for sanction to borrow £7,500 for the purposes of a housing scheme of their own.

SPENBOROUGH.—Plans passed by U.D.C.: Bungalow, Westfield-lane, Scholes, for Mr. J. C. Phelon; 13 houses in the district.

STOKESLEY.—The R.D.C. have approved plans for the following: Bungalow at Great Ayton, for Mr. T. W. Burton; bungalow at Marton Moor-road, Nunthorpe, for Messrs. Potter & Humble; house at Stokesley, for Mr. Sweeting; house at Faceby-lane, for Mr. Hickson.

STRETFORD.—Plans passed by U.D.C.: Four houses and shops, Talbot-road, for Messrs. G. H. Brown & Son; 4 houses, Gorse-lane, for Messrs. G. H. Brown & Son; three houses, Burleigh-street, for Mr. Fred Thorpe; 111 houses, Marlborough-road, &c., for Mr. J. W. Maunders; house, Urmston-lane, for Mr. William Hy. Ellis; extension of works, Smith-street, for Messrs. Samuel Whittaker, Ltd.

SUNDERLAND.—The E.C. propose to extend the laboratory accommodation at the Technical College in order to enable them to secure affiliation to the University of Durham, and an expenditure of £7,500 is estimated for additional buildings and alterations.

TODMORDEN.—The M.H. has sanctioned a proposal of the T.C. to subsidise an additional twenty houses, and has agreed to a further loan of £2,000. Plans are also being prepared for non-parlour houses on the Ferney Lee site, the building to be carried out by contract.

TYNEMOUTH.—The Housing Committee have reported to the T.C. that the housing architect has been instructed to prepare a block and sketch plans for the erection of an additional 50 maisonnettes at Balkwell.

UPPINGHAM.—The U.D.C. has approved a scheme for the building of 72 houses. These are to be divided amongst the parishes as follows: Uppingham 20, Barrowden 6, Belton 2, Bisbrook and Glaston 4, North Luffenham 6, South Luffenham 6, Lyddington 4, Morcott 3, Preston 4, Ridlington 2, Seaton 6, Wing 6.

WALVERLEY.—The R.D.C. and the local E.A. are urging the B. of E. for the immediate provision of a new Elementary School at Walverley.

WARSOP.—In view of housing developments near the Welbeck Colliery, remaining sections of Netherfield-lane School are to be completed, giving additional accommodation for 408 children and a central hall, estimated cost £9,900.

WASHINGTON.—The R.D.C. have decided to make application for permission to erect another 76 houses on the Spout-lane site.

WEMBLEY.—The Wesleyan Methodist Church Council propose to erect a new church, with seating accommodation for 600 people, at an estimated cost of £12,500.

WEETSLADE.—The R.D.C. have approved plans submitted by their surveyor for the erection of an additional 16 houses on their housing estate at Annitsford.

WHITBY.—Plans passed by R.D.C.: Shop at Sleights, for Mr. H. Lawson (plans by Mr. A. E. Young); four semi-detached houses in Station-road, Robin Hood's Bay, for Messrs. Robinson, Randall & Emmerson (plans by Mr. J. Rickinson); bungalow on Egton-road, Aislaby, for Mr. John H. Watgate.

WHITLEY BAY AND MONKSEATON.—Plans for a further 58 houses have been approved by the U.D.C.

WIGTON.—The M.H. has held an inquiry regarding an application by the U.D.C. for an additional loan of £5,000 for sewerage and sewage disposal works.

WILLESDEN.—Plans passed by U.D.C.: St. Luke's Memorial Hall, Canterbury-road, Kilburn, by Mr. R. P. Kennedy, for the vicar of St. Luke's Church, Kilburn; house, 100, Dewsbury-road, Willesden, for Messrs. Pearce & Taylor; three houses, 80, 82 and 84, Brondesbury Park, by Mr. F. Stanley Allen, for Messrs. Western by Mr. P. J. Symonds, for Mr. J. C. Webb; 10 houses, Oxgate-gardens and Dollis Hill-lane, for Mr. F. W. Brealy; boiler-house, &c., Neasden-lane, Neasden, by Mr. H. Shaw, for the Neasden Waxed Paper Co.; workshop, Mordaunt-road, Harlesden, for Messrs. M. Greenwood & Son, Ltd.; four houses, Fleetwood-road, Dudden-hill, Willesden, by Mr. P. J. Symmons, for Mr. J. C. Webb.

WORCESTER.—The C.C. propose to reconstruct the Bilford-lane Canal Bridge at an estimated cost of £4,100, Bilford-lane Bridge over Barbourne Beck at an estimated cost of £2,050, and Lansdowne-road Canal Bridge at an estimated cost of £2,400, subject to the sanction of the M.H.

YORK.—Plans passed by T.C.: A. Jessop, house, Moorgate; C. Martin, two houses, Lime-avenue.

FIRES.

BANFFSHIRE.—The Public School of Sandend, near Portsoy, Banffshire, has been completely destroyed by fire.

BUCKIE.—A fire has occurred at the fish-curing premises of Mr. W. Hill, Low-street.

ROEHAMPTON.—A fire has occurred at Queen Mary's Convalescent Auxiliary Hospital for Limbless Men at Roehampton House, and a large range of buildings was destroyed.

ST. PANCRAS.—Great damage was done by a fire which has occurred at the works of the General Motor and Tyre Co., Caledonian-road.

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.

	£ s. d.
Best Stocks	3 19 0
Second Hard Stocks	3 14 0

Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons, at King's Cross	2 13 3	Best Blue Pressed Staffs.	9 0 0
Do. grooved for plaster	2 15 3	Do. Bullnose	9 10 0
Do. Bullnose	3 8 3	Blue Wire Cuts	7 0 0

Best Stourbridge Fire brick:—

2½ in.	11 3 0	3 in.	13 2 0

GLAZED BRICKS—

Best White Ivory, and Salt Glazed Stretchers	22 0 0	D'ble Str'tch'rs	30 10 0
Headers	21 10 0	D'ble Headers	27 10 0
Quoins. Bullnose and 4½in. Flats	28 10 0	One Side and two Ends	31 10 0
		Two Sides and one End	32 10 0
		Splays and Squints	30 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

BREEZE CONCRETE SLABS.

Delivered London.

	s. d.		s. d.
2 in. per yd. super	2 1	3 in. per yd. super	2 11
2½ in. „	2 6	4 in. „	3 6

	s. d.	
Thames Ballast	10 6	per yard.
Pit Sand	14 9	„ „
Thames Sand	15 6	„ „
Best Washed Sand	15 6	„ „
½ in. Shingle for Ferro-Concrete	14 0	„ „
¾ in. „ „	15 0	„ „
¾ in. Broken Brick	10 6	„ „
Pan Breeze	5 6	„ „

delivered 2 miles radius Paddington.

Per ton delivered in London area in full van loads.

Best Portland Cement, British Standard Specification Test £2 18 0 to £3 3 6 51/- alongside at Vauxhall in 80-ton lots.	
Ferrocrete per ton extra on above	0 10 0
Super Cement	4 8 0
Roman Cement	8 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
„ „ Pink	5 10 0
Plaster, Coarse, Pink	3 0 0
„ „ White	3 12 6
„ Fine	5 12 0
Sirapite, Coarse	3 9 0
„ Finish	3 17 0
Grey Stone Lime	2 10 9
Chalk Lime	2 10 9
Best Ground Blue Lias Lime	2 13 6
Hair	17 0 0
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months, carr. pd.

Stourbridge Fireclay in s'cks 35s. 0d. per ton at rly. dpt.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 9½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	2 11½
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 4
Do. do. delivered on road wagons at above stations, per ft. cube	4 5
White basebed, 3d. per ft. cube extra.	
NOTE.—½d. ft. cube extra for every foot over 20 ft. *average*, and ¼d. beyond 30 ft.	
HOPTON-WOOD STONE.	
Delivered at any Goods Station, London.	
Small random blocks, up to 10 ft. cube. Per ft. cube	7/-
Random blocks from 10 ft. and over „	17/-
Sawn two sides „	27/-
Sawn three or four sides „	32/-
YORK STONE, BLUE—*Robin Hood Quality.*	
Delivered at any Goods Station London.	s. d.
6 in. sawn two sides landings to sizes (under 30 ft. super.) Per Ft. Super	5 3
6 in. rubbed two sides, ditto „	5 9
3 in. sawn two sides slabs (random sizes) „	2 1½
2 in. to 2½ in. sawn one side slabs (random sizes) „	1 5½
1½ in. to 2 in. ditto, ditto „	1 3
HARD YORK—	
Delivered at any Goods Station London.	
Scappled random blocks Per Ft. Cube	5 6
6 in. sawn two sides landing to sizes (under 40 ft. super.) Per Ft. Super	5 4½
6 in. rubbed two sides ditto „	6 0½
4 in. sawn two sides slabs (random sizes) „	2 10
3 in. ditto. ditto „	2 5
2 in. self-faced random flags. Per Yard Super	7 11

ARTIFICIAL STONE.

Delivered in London Area in full van loads.	s. d.
Plain per ft. cube	6 6
Moulded „ „	7 9
Cills „ „	8 3

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11	£34 0	3 × 6	£25 0
4 × 9	34 0	3 × 11	34 0
4 × 8	29 0	2 × 11	34 0
4 × 7	28 0	3 × 9	33 0
3 × 8	26 10	2½ × 9	33 0
3 × 7	26 0	3 × 4½	24 0
2½ × 7	26 0	3 × 4	24 0

WOOD (*Continued*).

PLANED BOARDS.

1 × 11	£38 10	1 × 9	£36 0

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
⅝	21/-	1¼	33/6
¾	23/-	1½	38/6
	26/6		

TONGUED AND GROOVED FLOORING.		MATCHINGS (BEST).	
Inches.	per sq.	Inches	per sq.
1	26/6	⅝	17/6
1¼	33/6	¾	22/-
1½	38/6	1	26/-

Inches	BATTENS	s. d.
¾ × 2		2 4 per 100 ft.

SAWN LATHS.

Per bundle				0	2 10
Dry Wainscot Oak, per ft. super, as inch	0	2 0	to	0	2 6
¼ in. do. do.	0	1 6	to	0	2 0
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0	1 9	to	0	2 6
Cuba Mahogany	0	3 0	to	0	3 6
Teak (Rangoon, Moulmein or Java), per load	45	0 0	to	50	0 0
American Whitewood planks, per ft. cube	0	14 0	to	0	16 0
Best Scotch Glue, per cwt.	4	10 0	to	—	
Liquid Glue, per cwt.	4	7 0	to	5	10 0

SLATES.

1st quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station. Per 1,000 of 1,200.

	£ s. d.		£ s. d.
24 by 12	37 12 6	18 by 10	21 2 6
22 by 12	34 0 0	18 by 9	18 12 6
22 by 11	31 5 0	16 by 10	17 12 6
20 by 12	29 15 0	16 by 8	13 15 0
20 by 10	25 12 6		

TILES.

	Per 1,000 f.o.r. London. £ s. d.
Best machine-made tiles from Broseley or Staffordshire district	5 7 6
Ditto hand made ditto	5 12 6
Ornamental ditto	5 17 6
Hip and valley tiles (per dozen) { Hand made	0 9 6
Hip and valley tiles (per dozen) { Machine made	0 9 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—

	£ s. d.
R. S. Joists, cut and fitted	13 10 0
Plain Compound Girders	15 10 0
Stanchions	17 10 0
In Roof Work „	20 10 0

MILD STEEL ROUNDS.

To London Station, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
⅜ in.	16 10 0	⅝ in. to ½ in.	13 10 0
½ in.	14 10 0	¾ in. to 2½ in.	13 0 0

WROUGHT-IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward if sent from London Stocks.)

	Tubes.	Fittings.	Flanges.
Gas	52½%	52½%	62½%
Water	47½%	47½%	57½%
Steam	42½%	42½%	52½%
Galv'd—			
Gas	37½%	42½%	52½%
Water	31½%	37½%	47½%
Steam	25 %	32½%	42½%

C.I. HALF-ROUND GUTTERS—London Prices, ex Works.

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/1½	11d.	3½d.
3½ in.	1/2½	1/0½	3½d.
4 in.	1/4	1/1½	3½d.
4½ in.	1/5½	1/4	4d.
5 in.	1/7½	1/5½	5d.

O.G. GUTTERS.

3 in.	1/6½	1/2½	3½d.
3½ in.	1/6½	1/2½	3½d.
4 in.	1/7½	1/4	3½d.
4½ in.	1/9½	1/6½	4d.
5 in.	2/1½	1/9	5d.

RAIN-WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in. plain	1/7½	1/1½	1/8
2½ in. „	1/9½	1/4	2/0½
3 in. „	2/1½	1/8	2/5½
3½ in. „	2/6½	1/11½	2/10½
4 in. „	2/11½	2/4½	3/5½

L.C.C. COATED SOIL PIPES—London Prices ex works.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6fts plain	3 0½	2 2½	2 8
2½ in. „ „	3 6½	2 5½	3 3½
3 in. „ „	4 2½	2 8	4 0½
3½ in. „ „	4 7	3 3½	4 8½
4 in. „ „	5 1	3 9½	5 5

L.C.C. COATED DRAIN PIPES—London Prices ex works.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches stock angles. s. d.
3 in. per yd. in 9ft. lengths	4 9	5 8	8 10
4 in. „ „	6 3	6 8	11 4
5 in. „ „	7 6	11 6	18 2
6 in. „ „	8 10	14 4	23 5

	Per ton in London. £ s. d.		£ s. d.
IRON—			
Common Bars	13 10 0	to	14 10 0
Staffordshire Crown Bars—good merchant quality	14 0 0	..	15 0 0
Staffordshire "Marked Bars"	17 0 0	..	18 0 0
Mild Steel Bars	12 10 0	..	13 10 0

METALS (*Continued*).

	£ s. d.		£ s. d.
Steel Bars, Ferro-Concrete quality, basis price	13 0 0	..	14 0 0
Hoop iron, basis price	16 10 0	..	17 10 0
„ Galvanised	31 0 0	..	32 0 0
Soft Steel Sheets, Black—Ordinary sizes to 20 g.	15 0 0	..	16 0 0
„ „ „ 24 g.	16 0 0	..	17 0 0
„ „ „ 26 g.	18 0 0	..	19 0 0
Sheets Flat Best Soft Steel, C.R. & C.A. quality—Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	21 10 0	..	22 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	22 10 0	..	23 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	24 10 0	..	26 10 0
Flat and Galvanised Corrugated Sheets—Ordinary sizes, 6 ft. to 9 ft. to 20 g.	21 10 0	..	22 10 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	22 0 0	..	23 0 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	24 0 0	..	25 0 0
Sheets Galvanised Flat, Best quality—Best Soft Steel Sheets, 6ft. by 2ft. to 3ft. to 20g. and thicker	23 10 0	..	24 10 0
Best Soft Steel Sheets, 22 g. and 24 g.	24 10 0	..	26 10 0
Best Soft Steel Sheets, 26 g.	26 0 0	..	27 0 0
Cut Nails, 3in. to 6 in. (under 3in. usual trade extras.)	20 10 0	..	22 0 0

METAL WINDOWS—Standard sizes suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1/4 to 1/7 per foot super.

LEAD, &c.

(Delivered in London.)	£ s. d.
LEAD—Sheet, English, 4 lb. and up	47 10 0
Pipe in coils	48 0 0
Soil Pipe	51 0 0
Compo pipe	54 0 0

NOTE—Country delivery, 30s. per ton extra; lots under 3 cwt., 2s. per cwt. extra and over 3cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills per ton	35 0 0 ..	—
Do., ex country, carriage forward per ton	36 0 0 ..	—

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62/-	92/-	174/-	300/-	588/- per doz.

NEW RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2in.
7/6	11/6	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1¼ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

	1½ in.	1½ in.	2 in.	3 in.
8 lbs. P. traps	33/-	41/-	56/-	101/- per doz
8 lbs. S. traps	35/-	45/-	66/.	126/- „

COPPER—	£ s. d.
Strong Sheet per lb.	0 2 3 .. —
Thin „ „	0 2 4 .. —
Copper nails „	0 2 3 .. —
Copper wire „	0 2 4 .. —
TIN—English Ingots „	0 2 7 .. —
SOLDER—Plumbers' „	0 1 2 .. —
Tinmen's „	0 1 4 .. —
Blowpipe „	0 1 6 .. —

PAINTS, &c.

	£ s. d.
Raw Linseed Oil, in pipes per gallon	0 4
„ „ „ in barrels „	0 4 5
„ „ „ in drums „	0 4 8
Boiled „ „ in barrels „	0 4 8
„ „ „ in drums „	0 4 11
Turpentine in barrels „	0 6 9
„ in drums (10 gall.) „	0 7 0
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)	62 10 0
GENUINE WHITE LEAD PAINT—"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Spedol" and other best brands (in 14 lb. tins) not less than 5 cwt. lots per ton delivered	86 10 0
Red Lead, Dry (packages extra) per ton	50 0 0
Best Linseed Oil Putty per cwt.	0 16 0
Filocol per cwt.	0 15 6
Size, XD Quality fkn	0 3 0

[Concluded on next page.]

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS (*contd.*)

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

	Per Ft.		Per Ft.
15 oz. fourths	3½d.	32 oz. fourths	8½d.
15 „ thirds	4½d.	32 „ thirds	10½d.
21 „ fourths	5d.	Obscured Sheet, 15 oz.	4d.
21 „ thirds	6½d.	„ „ 21 „	5½d.
26 „ fourths	6d.	Fluted 15oz. 6½d., 21oz.	9½d.
26 „ thirds	7½d.	Enrolled 15oz. 5½d., 21oz.	7½d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft
Rolled plate	4½d.
Rough rolled	5½d.
Rough rolled	5½d.
Figured Rolled, Oxford Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish white	6½d.
Ditto, tinted	9d.
Rolled Sheet	6d.
White Rolled Cathedral	5½d.
Tinted do.	7½d.

Cast Plate is same price as rough rolled.

VARNISHES, &c.

		Per gallon £ s. d.
Oak Varnish	Outside	0 14 0
Fine ditto	ditto	0 16 0
Fine Copal	ditto	0 18 0
Pale Copal	ditto	1 0 0
Pale Copal Carriage	ditto	1 4 0
Best Ditto	ditto	1 12 0
Floor Varnish	Inside	0 18 0
Fine Pale Paper	ditto	0 18 0
Fine Copal Cabinet	ditto	1 2 6
Fine Copal Flatting	ditto	1 0 6
Hard Drying Oak	ditto	0 18 0
Fine Hard Drying Oak	ditto	0 19 0
Fine Copal Varnish	ditto	1 0 0
Pale ditto	ditto	1 2 0
Best ditto	ditto	1 12 0
Best Japan Gold Size		0 12 0
Best Black Japan		0 12 0
Oak and Mahogany Stain (water)		0 9 0
Brunswick Black		0 14 6
Berlin Black		0 14 6
Knotting (patent)		1 5 0
French and Brush Polish		0 17 0
Liquid Dryers in Terebine		0 9 0
Cuirass Black Enamel		0 7 0

Epstein Busts for Aberdeen.

The Art Gallery Committee of the Town Council, at a recent meeting, decided to purchase two bronze busts by Epstein—one of Mr. R. B. Cunninghame Graham, and the other entitled "Old Pinager."

These works of art were first shown in London and in the Leicester Galleries, where they are now on exhibition. They have been acquired at a price of £150 each.

THE SCOTTISH BUILDER

NEW BUILDINGS IN SCOTLAND.

Edinburgh.—HOUSES.—The Dean of Guild Court has passed the following plans: Mr. A. H. Duncan, bungalow, Dumbrae-road, Corstorphine; Mr. A. E. Hasefield, villa, Barnton-avenue, Davidson's Mains; Mr. S. McKenzie, house, Haughton-road, Corstorphine; Mr. Alexander Raitt, bungalow, Dovecot-road, Corstorphine; Mr. J. Ross, bungalow, Dumbrae-road, Corstorphine.——The Housing Committee has agreed to recommend the T.C. to proceed with the erection of 1,000 houses at Lochend.

Kirkintilloch. — SCHOOL. — Dumbartonshire Education Authority has decided to erect a new secondary school in connection with St. Ninian's Roman Catholic School, at Kirkintilloch.

Broughty Ferry.—PAVILION.—The T.C. has asked the City Engineer to submit a report regarding the erection of a proposed pavilion.

Greenock.—BUILDING.—The Committee on Secondary Education has recommended the provision of a new building for Greenock High School.

Renfrew.—HOUSES.—The Board of Health has approved of the site decided on by the T.C. for the erection of 60 houses in Sandy-road.

Broughty Ferry.—TENEMENTS.—Erection of tenements for T.C. of Dundee. Applications to be addressed to Mr. J. Thomson, Director of Housing, City Chambers, Dundee.

Buckie.—HOUSES.—Painter work of seven blocks of houses in course of erection. Schedules from Mr. W. Hendry, Burgh Surveyor, or from Messrs. G. Sutherland and C. George, Architects, 26, Crown-street, Aberdeen.

Aberdeen.—CLUBHOUSE EXTENSION.—Extension of Deeside Golf Club house at Bieldside. Brown & Watt, Architects, 17, Union-terrace, Aberdeen.

MARCH 11.—**Kirkcaldy.**—EXTENSIONS.—Extension to Education Offices, Wemyssfield, Kirkcaldy, for Fife Education Authority. Particulars from Mr. G. Sandilands, Education Offices, Kirkcaldy. £1 1s.

CASTLE OF COULL UNEARTHED.

MR. W. DOUGLAS SIMPSON, M.A., F.S.A., lectured recently at Aberdeen on "The Rediscovery of Coull Castle." In the course of his remarks he said the important Castle of Coull, situated in the beautiful Howe of Cromar, between Aboyne and Tarland, was the chief seat of the great family of De Lundin, better known as the Durwards, hereditary Door-wards at the Scottish Court.

The Durwards erected three castles. Two, the Peel of Lumphanan and the Castle of Strachan, were moated and palisaded mounds of the earlier Norman type. The third, at Coull, forming the capital messuage and administrative centre of the barony, was a great building of stone and lime of the fashion just then coming into use in Scotland. During the War of Independence the castle was held for England, first by Sir John de Hastings and then by the Earl of Atholl.

After its desertion the ruined castle had become entirely buried, though at the end of the eighteenth century the remains were partly exposed during diggings made for lime. An account written on that occasion made it clear that the castle must have been an exceptionally large and powerful specimen of its class, and stimulated Dr. Marshall Mackenzie, when he acquired the property in 1912, to commence excavations on the site with a view to exposing the ruins once again. Interrupted by the war, the excavations had been resumed, at Dr. Mackenzie's request, by Mr. Simpson during last summer. The general result had been to recover one of the oldest and greatest of Scottish castles from burial and oblivion.

As exposed to-day, the buildings consisted of a courtyard 110 ft. in breadth, enclosed by walls varying from 7 to 18 ft. in thickness. Remains of three flanking towers had been revealed, one of which, forming the donjon or keep, was 32 ft. in diameter, and still existed to a height of 14 ft.

An interesting feature of this tower was that it had been greatly damaged at an early date, evidently by an attempt to undermine it, and had afterwards been clumsily repaired. In front of the main gate was a long, deep pit, hewn in the solid rock, which had been spanned by a drawbridge.

Bruce's well-known policy was to dismantle castles as soon as he recovered them, and Coull Castle was known to have been held by the English as late as July, 1305. At the end of 1307 Bruce invaded Aberdeenshire and won the battle of Inverurie. It was known that all the castles held for England were recovered in the following year. And although Coull Castle was not specifically mentioned, it was reasonable to assume that it had been captured and destroyed in that year.

Forthcoming Books.

In their list of books for the spring season Messrs. B. T. Batsford, Ltd., include the following:—"English Decoration and Furniture of the Early Renaissance," by Margaret Jourdain, being the first, yet final volume of the "Library of Decorative Art"; "The Story of Architecture," a popular outline, by P. Leslie Waterhouse, M.A.; "The Decorative Arts in England during the late Seventeenth and Eighteenth Century," by H. H. Mulliner; "Sketching in Lead Pencil," for students and architects, by Jasper Salwey, A.R.I.B.A.; "Building Construction Plates," for students, two parts, elementary and advanced, by A. Buchanan and W. H. Hudson; "A History of Ornament (concluding part) in Renaissance and Modern Times," by Professor A. D. F. Hamlin; "Colonial Furniture of the Pilgrim Century" (1620–1720), by Wallace Nutting; "Industrial Arts for Elementary Schools," by Bonsor and Mossman, with 280 illustrations; "Poster Design: A Study of its Recent Development in Europe and America," by Charles Matlack Price.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Brick layers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Brick-layers' Labourers.	Plasterers' Labourers.
Aberdeen	1/7½	1/8½	1/7½	1/8	1/7	1/7	1/4½	1/0½	
Airdrie	1/7½	1/7½	1/7½	1/8	1/7	1/7	1/6½	1/2½	
Alexandria	1/7½	1/7½	1/7½	1/8	1/7	1/7	1/6½	1/2½	
Arbroath	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/5½	1/1½	
Ayr	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/6½	1/2½	
Bathgate	1/7½	1/7½	1/7½	1/8	1/7	1/7	1/6½	1/1½ to 1/2½	
Blairgowrie	1/7½	—	1/7½	1/7	1/7	1/7	1/6½	—	
Bo'ness	1/7½	1/7½	1/7½	1/8	1/7	1/7	1/6½	1/2½	
Coatbridge	1/7½	1/7½	1/7½	1/8	1/7	1/7	1/6½	1/2½	
Dumbarton	1/7½	1/7½	1/7½	1/8	1/7½	1/7½	1/6½	1/2½	
Dumfries	1/5	1/5	1/5	1/6	1/5½	1/6	1/5½	1/1 to 1/1½	
Dundee	1/7½	1/7½	1/7½	1/8	1/7	1/7	1/6½	1/2½	
Dunfermline	1/7½	1/7½	1/7½	1/8	1/7½	1/7½	1/6½	1/2½	
Edinburgh	1/7½	1/7½	1/7½	1/8	1/8	1/7	1/6½	1/2½	
Falkirk	1/7½	1/7½	1/7½	1/8	1/7	1/7	1/6½	1/2½	
Fort William	1/7½	1/6½	1/6½	1/7	1/6	1/6	1/6½	1/2	
Galashiels	1/5½	1/5½	1/5½	1/6	1/5½	1/5½	1/5½	1/1½	
Glasgow	1/7½	1/7½	1/7½	1/8	1/7	1/7	1/6½	1/2½	
Greenock	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/5½	1/0 to 1/2½	
Hamilton	1/7½	1/7½	1/7½	1/8	1/7	1/7	1/6½	1/2½	
Hawick	1/5½	1/5½	1/5½	1/6	1/5	1/5	1/5½	1/2	
Helensburgh	1/7½	1/7½	1/7½	1/8½	1/8	1/7½	1/6½	1/2½	
Inverness	1/4	—	1/3½	1/4	1/4½	1/4	1/3½	10½d to 1/2½	
Kilmarnock	1/7½	1/7½	1/7½	1/8	1/7	1/7	1/6½	1/2½	
Kirkcaldy	1/7½	1/7½	1/7½	1/8	1/7½	1/7½	1/6½	1/2½	
Kirkwall	1/4½	1/4½	1/3½	1/4	1/4½	1/4	1/3	1 0	
Lanark	1/7½	1/7½	1/7½	1/8	1/7	1/7	1/5½	1/2½	
Leith	1/7½	1/7½	1/7½	1/8	1/7	1/7	1/6½	1/2½	
Motherwell	1/7½	1/7½	1/7½	1/8	1/7	1/7	1/6½	1/2½	
Perth	1/7½	1/7½	1/7½	1/8	1/7	1/7	1/6½	1/2½	
Stirling	1/7½	1/7½	1/7½	1/8	1/7	1/7	1/6½	1/2½	
Stirlingshire (Eastern District)	1/7½	1/7½	1/7½	1/8	1/7	1/7	1/6½	1/2½	
Wishaw	1/7½	1/7½	1/7½	1/8	1/7	1/7	1/6½	1/2½	

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 392.

CURRENT PRICES FOR BUILDING WORK IN LONDON.

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	6
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

Portland cement concrete in foundation 1 to 6	per yard cube	35	0
Add if in underpinning in short lengths	" "	7	6
Add if in floors 6 in. thick	" "	3	6
Add if in beams	" "	4	0
Add if aggregate 1 : 2: 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	3	3

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	30	0	0
Add if in stocks	"	7	10	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	2	0	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

Neat flat struck or weathered joint	" "	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—				
Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	0

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	1
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	4	3
Three-quarter-inch vertical damp course	" "	9	0
¾ inch on flats in two thicknesses	" "	6	6
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	3

MASON.

York stone templates fixed	per foot cube	12	6
York stone sills fixed	" "	21	6
Bath stone and all labour fixed	" "	10	6
Portland stone fixed	" "	19	6

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do. 20 in. × 10 in. Do. Do.	"	80	9
Do. 24 in. × 12 in. Do. Do.	"	90	0

CARPENTER AND JOINER.

Fir framed in plates	per foot cube	5	3
Do. joists	" "	5	9
Do. roofs, floors and partitions	" "	6	3
Do. trusses	" "	8	3

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	38/-	44/-	50/-	80/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	per ft. sup.	50	0
Do. to beams	"	1	0
Centres for arches	"	1	6
Gutter boards and bearers	"	1	0

FLOORING.

		¾"	1"	1¼"	1½"
Deal-edges shot	per sq.		49/-	58/-	67/-
Do. tongued and grooved	"		54/-	65/-	72/-
Do. matchings	"	45/-	55/-		
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/0	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	" "	2	1
Add for fitting and fixing	" "	0	4
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights; average size	" "	3	9

DOORS.

		1½"	1¾"	2"
Two-panel square framed	per ft. sup.	2/1	2/4	2/6
Four-panel Do.	"	2/5	2/8	2/11
Two-panel moulded both sides	"	2/8	2/11	3/2
Four-panel Do. Do.	"	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/8	1/9	2/0
Deal shelves and bearers	"	1/5	1/7	1/10
Add if cross tongued	"	2d.	2d	2d.

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail; average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	11	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/4
Sash fasteners	11½d.	Mortice locks	5/3
Casement fasteners	1/5	Patent spring hinges and letting in to floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	17	0
Plain compound girders	"	20	0
Do. stanchions	"	23	0
In roof work	"	28	0

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/11	2/4½	3/7	4/-
Ogee Do. Do.	"	2/4½	3/1	3/10	4/9
Rain-water pipes with ears	"	2/9	3/7		
Extra for shoes and bends	each	4/4	5/11		
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	64	0
Do. Do. in flats	"	62	0
Extra labour and solder in coated cesspools	each	6	9
Welt joint	per ft run.	0	6
Soldered seam	" "	1	6
Copper nailing	" "	0	6

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	1/2	1/11	2/2	3/10	4/7	
Do. service	"	1/10	2/5	2/10	4/3		
Do. soil	"						7/6
Bends in lead pipe	each					3/3	8/2
Soldered stop ends	"	1/2	1/8	2/1	2/10	3/6	
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	"				14/7	19/6	
Bib cocks and joints	"	6/4	9/7	15/4	41/-		
Stop cocks and joints	"	15/4	17/2	25/8	64/-		

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	2
Do. Do. Sirapite	" "	2	4
Do. Do. Keen's	" "	3	3
Add sawn lathing	" "	1	5
Add metal lathing	" "	2	3
Portland cement screed	" "	1	10
Do. plain face	" "	3	0
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	5	9

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	0	9
26 oz. Do.	" "	1	1
Obscured sheet	" "	1	3
¼ in. rolled plate	" "	0	9
¼ in. rough rolled or cast plate	" "	0	11
¼ in. wired cast plate	" "	1	5

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	" "	0	7
Plain painting 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	" "	1	2
Preparing for and hanging paper	per piece	2/- to 4/-	

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10 % on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

HOUSING SCHEMES.

THE Ministry of Health recently issued the following statement :—

A conference was held at the Ministry of Health on the 19th ult., with representatives of the suppliers and producers of building materials. Mr. Wheatley, the Minister of Health, who presided, was accompanied by Mr. Shaw, the Minister of Labour ; Mr. W. Adamson, the Secretary for Scotland ; Mr. Greenwood, the Parliamentary Secretary of the Ministry of Health ; and Mr. James Stewart, Under-Secretary for Scotland.

Mr. Wheatley explained that before launching its housing scheme the Government were anxious to obtain the co-operation of all sections of the building industry, so that they might be assured not only that the necessary labour, materials, and other facilities would be available to ensure that houses would be produced in sufficient numbers, but also that the houses would be provided at a fair and reasonable price. The Government wished each part of the industry to approach the question from the same point of view, namely, that no section should make an effort to secure improved conditions as a result of the launching of the housing scheme which it would not have been able to secure apart from that scheme. Mr. Wheatley hoped that it would be possible to devise means to carry out a programme of building through the ordinary organisation of the industry, and that this could be done in such a way as to make control unnecessary.

On behalf of manufacturers of materials the following representatives of important sections of the industry spoke :—

Mr. W. H. Wright, President of the National Building Brick Federation ; Mr. Richard Jewson, Timber Trade Federation ; Mr. Barlow, Northern Federation of the Building Brick Industry ; Mr. John King, National Light Castings' Association ; Mr. G. H. Richards, North Wales Slate Quarries ; Mr. H. J. C. Johnston, Employers' National Council for the Clay Industry ; Mr. P. M. Stewart, Cement Makers' Federation, Greystone Lime Burners' Association, Pressed Brick Makers' Association ; Mr. F. G. Foster, Member, Mid-Yorkshire Lime Makers' Association, President, Sheffield and District Lime Makers' Association ; Col. Foster, United Kingdom Lead Manufacturers' Association.

The speakers assured the Minister that the Government would have the whole-hearted co-operation of the materials' manufacturers of the country, and that there would be no attempt to advance prices as a result of the housing scheme.

A small committee was appointed by the representatives present to co-operate with the committee of the employers' and workers' organisation, which has already been set up with the object of submitting proposals to the Government.

BRISTOL BUILDERS' DINNER.

THE annual dinner of the Bristol Association of Building Trades' Employers was held recently. Mr. C. R. Setter presided, and amongst those present were the Lord Mayor, the Sheriffs, the Bishop of Bristol, the President of the Bristol Chamber of Commerce, the ex-President of the National Federation of Building Trades' Employers (Mr. W. H. Nicholls), the President of the Western Federation (Mr. E. P. Bovey), the President of the Bristol Society of Architects (Mr. W. S. Skinner), and the hon. secretary (Mr. W. J. Stenner), the Town Clerk, City Engineer, Docks Engineer, City Valuer, the President, Bristol Plumbers' Association (Mr. H. J. White), the President, Bath Builders' Association (Mr. G. Hayward), and the President, Clerks of Works' Association (Mr. C. H. Trevelyan).

Mr. C. F. W. Dening proposed "The National Federation of Building Trades' Employers," and said the Federation was on better terms to-day with architects and the allied professions than it had ever been. The spirit that pervaded the building trade to-day was anxiety for good work. Before they could tackle the rebuilding of Bristol it was necessary to have a comprehensive plan and a general lay-out for the development of the city.

Mr. W. H. Nicholls, responding, said the National Federation was looking to Bristol to play an increasing part in the Councils of the National Federation in the near future. Bristol had not done badly, but there was a great deal more it could do to help to grapple with the serious problems to be dealt with in the near future. So long as they had good homes they would have a contented people. But these things must be accompanied by economic business methods. In attempting to solve this question they had to be extremely careful that they did not ruin for ever the trade that for many years had provided the homes for the people.

In submitting "The Bristol Association of Building Trades' Employers," the Sheriff said the men in the trade had always done their part. There were great difficulties in the housing question, and some way must be found to surmount them.

In response, the President said they all felt their responsibility with regard to housing, but they wanted the public to feel that they had a responsibility towards the builders to make it possible for them to solve the problem. He believed they had arrived at a point when there could be co-operation.

In responding to "The Visitors," proposed by Mr. F. N. Cowlin, Mr. W. S. Skinner said that in Bristol they had one of the few architectural schools in the country, and it was doing very good work. Regarding housing, this would settle itself in a very short time if the trade unions would relax their rules and allow them to work as long as they would at piece-work.

Mr. L. S. McKensie (City Engineer), who also responded, said he was disappointed at the housing progress. It was the most serious and difficult problem before the country. Only 1,500 houses had been erected in Bristol since the war, and the slums had not been touched. More co-operation was needed to get the work done.

THE LONDON MASTER ASPHALTERS' ASSOCIATION.

ON February 29, the fourth annual dinner of the London Master Asphalters' Association was held at the Restaurant Frascati. Mr. G. Mitchell presided.

After the loyal toasts had been honoured, Mr. Francis J. Sim, in proposing the "London Master Asphalters' Society," said, although this was only their fourth annual dinner, it had been a very successful Association, and was recognised as being of the greatest value to all concerned. They were, in regard to the question of prices, concerned with keeping them at a suitable economic level, without undue fluctuations.

Mr. G. Mitchell, responding, said the success of the Association was due to the efforts of the preceding chairmen and officials concerned. He hoped the past dignity and character of the Association would be maintained, and that they would continue to work in harmony with allied associations.

After Mr. J. B. London had proposed "The Chairman," Mr. G. Mitchell, responding, said it was due to Mr. Cooper that the Asphalters' Association, which had one of the best names in the world, ever came into being. He hoped that in the future, as in the past, they would get along with the minimum of friction.

The "Immediate Past Chairman" was proposed by Mr. T. D. Cooper, who reiterated the necessity for binding themselves together even more closely, if possible, than in the past. Only on this basis could they maintain their past success.

After the "Immediate Past Chairman" had replied, Mr. S. D. Clements proposed "The Visitors," to which Mr. Alexander Ritchie replied.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted*. † Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modifications*.

BATH.—For the enlargement of Bloomfield Reservoir, for the T.C. :—
*Stephen Ambrose, Ltd. £1,800

BATH.—For erection of tea chalet in Royal Victoria Park, for the T.C. :—
*F. J. Amery & Sons £1,675

BATH.—For the erection of an elevated tank at Lansdown, for the T.C. :—
*Willmer Contracts, Ltd. £2,135

BEDFORD.—Alterations and additions to the present cloak room, Girls' Modern School, for the Governors of the Harpur Trust. Mr. George P. Allen, F.R.I.B.A., architect and surveyor, High-street, Bedford :—

J. Corby & Son	£794	0	0
S. Foster	790	0	0
H. Bowler	757	0	0
*W. Laughton	744	14	9

All of Bedford.

BEDFORD.—Repairs, painting, decorating, &c., to 77, High-street, for Messrs. Amies, of Stafford. Mr. George P. Allen, F.R.I.B.A., architect and surveyor, High-street, Bedford :—

F. Gale	£432	19	
J. Corby & Son	424	5	
H. Bowler	306	5	
*S. Foster	295	10	

All of Bedford.

BEDFORD.—For alterations and building new bathroom for the Quantock's Boarding House, Linden-road. Mr. George P. Allen, F.R.I.B.A., architect and surveyor, High-street, Bedford :—

S. Foster, Bedford	£165	0	
*J. Corby & Son, Bedford	163	5	

BLACKPOOL.—For alteration to premises in Lytham-street, for the T.C. :—
*R. W. Bonny & Sons

BOURNEMOUTH.—For materials required for public conveniences, for the T.C. :—

*Hathern Brick & Terra Cotta Co., Ltd.—*Ribbed Grey Vitreous Terra Cotta*	£1,614	12	9
*Shanks & Co., Ltd.—*Sanitary ware*	411	10	6
*Lockerbee & Wilkinson—*Locks*	173	5	0

BOURNEMOUTH.—For making-up Hawthorn and Old Priory-roads, for the T.C. :—
*J. Douglas £956

BOURNEMOUTH.—For the drainage of public conveniences on the Undercliffe Drive, for the T.C. :—
*Grounds & Newton £2,995

BOURNEMOUTH.—For heating of the "Tabernacle" at the Sanitary Hospital, for the T.C. :—
*Haden & Sons £149 10

BRENTFORD.—For erection of caretaker's cottage and coach-house at the Isolation Hospital, for the U.D.C. Mr. J. W. Westlake, Surveyor, Council House, Brentford :—

G. Challis, Brentford	£925
F. D. Hidden & Co., Brentford	920
*H. Goodman, Holloway	856

BRIDLINGTON.—For erection of shelters on Beaconsfield Estate, for the T.C. :—
*Whitehall Concrete Co., Leeds £4,670

CHELMSFORD.—For supplying and laying 240 yds. of water main in Finchley-avenue, for the T.C. Mr. E. J. Miles, 16, London-road, Chelmsford :—

Henry Potter, Chelmsford	£255
*W. & C. French, Buckhurst Hill	190

CHESTERFIELD.—For erection of showrooms for the Gas Department of the Corporation in Knifesmith-gate :—
*W. G. Robson, Sheffield £4,825

CROYDON.—For widening of engine room, &c., at the Electricity Works, for the T.C. :—
*G. E. Everitt & Son £4,515 15

DENHAM.—For the erection of a shed containing a milk room and sterilising room and a range of three pigsties on Rush Green Farm, Denham, for the Middlesex C.C. :—

A. & B. Hanson, Ltd.	£259
Grainge & Grainge	247
W. S. Try	240
*Y. J. Lovell & Sons	227

DERBY.—For the erection of an engineering laboratory at the Technical College, for the T.C. :—
*J. H. Fryer £2,478

DEVIZES.—For erection of villa, Caen Hill. Mr. C. H. Goater, "Wiltshire Times" Chambers, Trowbridge :—
*H. J. Batchelor, Wilts £473

DORCHESTER.—For construction of shop front to premises in Great Western-road, for the Weymouth and District Co-operative Society :—

Watts Bros., Dorchester	£1,489
Theo. Conway, Ltd., Weymouth	1,487
Jesty & Baker, Weymouth	1,378
C. E. Slade, Dorchester	1,372
Jenkins, Hitt & Grant, Weymouth	1,364
J. F. Herridge, Dorchester	1,347
Pickett & Son, Dorchester	1,325

DUNDEE.—For erection of bridge at Kingsway, for the T.C. :—

†Orr, Watt & Co., Motherwell £14,517 16 6

GEDLING.—For erection of parlour-type three-bedroom houses, Priory-road. Mr. J. A. West, architect, 22, Station-road, Carlton, Notts :—

*T. H. Harper, Carlton..... £514

*Subject to variations in wages

GOSFORTH.—For laying new sewers and formation of roadway on Coxlodge Housing Site, for the U.D.C. Mr. Geo. Nelson, Surveyor, Council Chambers, High-street, Gosforth :—

John Trough, Fulwell.....	£1,175 18 6
Stanley Millar, Newcastle-on-Tyne	1,095 0 0
Wm. C. Fleck, Gosforth.....	920 5 0
Dyson, Lindsley & Co., Chester-le-Street	852 5 6
J. W. Robson, Gosforth.....	769 13 4
Elliott Bros., Newcastle-on-Tyne	736 0 0
H. Kindred, Swalwell.....	735 10 1
Edgar & Mole, Newbiggin-by-the-Sea	718 6 7
S. Oake & Co., Hebburn-on-Tyne	713 4 2
Blackett's Construction Co., Thornaby-on-Tees	712 0 0
*Peter Harle, Newcastle-on-Tyne	703 9 8
G. E. Simpson & Co., Newcastle-on-Tyne.....	621 0 0
W. W. Franklin, Junr., Newcastle-on-Tyne	595 19 3

HAWICK.—For relaying of High-street with ridged granite setts, for the Hawick T.C. :—

*Improved Roads Construction Co., Ltd., Newcastle £14,722 2 2

HAYWARDS HEATH.—For proposed alterations and additions to the Birch Hotel. Messrs. F. W. Rees & Archer-Betham, architects, 44, Park-lane, Croydon. Quantities by Mr. W. J. Lewis, Ilford :—

Wallis & Sons	£5,941
Trollope & Colls, Ltd.	5,771
Mullen & Lumsden, Ltd.	5,710
C. H. Gibson, Ltd.	5,400
Thomas White	5,241
Lewis, Helby & Tanner	4,492
Architects' Estimate	4,750

HERTFORDSHIRE.—For the construction of the Watford by-pass road, for the Herts C.C. :—

*Sir Robt. McAlpine & Sons.. £257,254 3 10

HONLEY.—For erection of detached residence at Ryecroft. Mr. J. Ainley, architect, 3, Chapel-hill, Huddersfield :—

Mason—A. Hirst & Co., Honley	£852 10 0
Joiner—B. Oldfield & Co., Honley	427 10 0
Plumber—F. France, Netherton	240 0 0
Slater—T. Allison, Ltd., Milnsbridge	98 9 0
Plasterer—E. S. Jessop, Honley..	80 0 0
Painter—Spence & Co., Honley..	24 6 0
Electric—E. Holroyd & Sons, Honley	36 18 6
Concretor—E. S. Jessop, Honley	64 0 0
Walling—D. Garside, Golcar....	50 0 0

HUDDERSFIELD.—For construction of 1,388 lin-yds. earthenware pipe and cast-iron pipe sewers, varying from 5 in. to 12 in., for the T.C. Borough Engineer, 1, Peel-street, Huddersfield :—

Section A—The Provincial Construction Co., Ltd., Sunderland.
Section B—A. Graham & Sons, Huddersfield.

HULL.—For the erection of electric sub-station in Clarendon-street, for the T.C. :—

†Maxwell Holmes..... £5,025

ILFORD.—For erection of maternity home, excluding medical officer's house, for the U.D.C. (Revised tenders) :—

A. E. Farr	£25,133
*S. E. Moss, Southend-on-Sea	25,050

ILFORD.—For the erection of the Becontree permanent school, for the U.D.C. :—

*Perry Bros., Ealing £34,367

KEIGHLEY.—For laying of granited rock asphalte in East-parade, for the T.C. :—

*Messrs. Tunstall's Seyssel & Limmer Rock Asphalte Co., Ltd., Leeds.

LEYTON.—For the erection of two covered playsheds at Cann Hall-road School, for the U.D.C. :—

W. J. Cearns	£1,235 10 0
W. J. Clemens.....	1,138 0 0
H. C. Horswill	1,096 0 0
E. A. Russell	1,095 0 0
R. J. Truscott.....	1,083 12 6
Clements (Grays), Ltd.	1,020 0 0
J. & J. Dean	998 0 0
F. J. Coxhead	845 0 0

LICHFIELD.—For reconstruction of Whittington sewage disposal works, for the R.D.C. :—

*J. R. Deacon, Lichfield—Building work	£1,179 0
*Tuke & Bell—Distributors	273 5
*Joseph Evans & Sons—Pumps..	149 0

LINLITHGOW.—For laying about 1,500 yds. 4-in. cast-iron pipes, for the D.C. of West Lothian C.C. Messrs. J. & A. Leslie & Reid, 72A, George-street, Edinburgh :—

Topping & Co., Edinburgh.....	£651 9 4
A. H. Robertson, Inverkeithing..	602 17 8
R. C. Brebner & Co., Edinburgh	586 12 2
A. McNulty, Penicuik.....	555 8 6
Peter Adamson, Cowdenbeath..	550 10 8
Casey & Darragh, Stirling.....	502 12 10
*John Hardie & Son, Bo'ness....	424 15 0

LIVERPOOL.—For new warehouse for Messrs. Baxendale & Co., Ltd., of Manchester and Liverpool, to plans prepared by Mr. Gordon Hemm, architect :—

*Roberts & Sloss £10,835

LONDON.—For repairs and restoration work to the Westminster School Crimean Memorial, for the School Committee. Mr. George P. Allen, F.R.I.B.A., architect and surveyor, High-street, Bedford :—

T. H. Adamson & Sons, Putney..... £105

MANCHESTER.—For the construction of a sewer along Great Ancoats-street, Swann-street, and Rochdale-road, Manchester, for the Rivers Committee, Manchester Corporation :—

*E. Nuttall, Sons & Co., Ltd., Manchester..... £385,592

MEXBOROUGH.—For erection of 32 houses, Adwick-road, for the U.D.C. Mr. G. F. Carter, Surveyor, Council Offices, Mexborough Quantities by Messrs. Gregory & Son, Colwyn Bay :—

G. Smith & Sons, Mexborough.....	£591
O. Weaver, Mexborough.....	548
A. J. Pugh, Rotherham.....	535
Hanwell & Co., Rotherham.....	515
Lockwood & Worrell, Doncaster.....	490
*Meanby & Sons, Mexborough	485

NEWBURY.—For alternative tenders for 12 houses, including fencing and drains, for the Corporation. The Borough Surveyor, Municipal Buildings, Newbury :—

Edwin Wait, Newbury	£6,365 0
Hoskings Bros., Newbury	6,300 0
Bunce Bros., Beenham	6,000 0
Camp Hopson & Co., Newbury	5,880 0
J. Smallbone & Sons, Streatley ..	5,670 0
*R. A. Wickens, Newbury	5,224 14

NEWBURY.—For the erection of 12 houses in Essex-street, for the T.C. :—

*R. A. Wickens..... £5,224 14

PETERBOROUGH.—For erection of 16 houses on Grange-road Estate, for the T.C. City Surveyor, Broadway, Peterborough :—

	Per Pair.
Guttridge & Sons, Peterborough.....	£1,193
T. Measures, Peterborough	1,135
J. Cracknell, Ltd., Peterborough	1,082
*R. S. Jellings, Peterborough	1,054

PORTSMOUTH.—For erection of pavilion at Milton Park, for the Corporation. Mr. A. W. Ward, Borough Engineer, Portsmouth :—

Jno. Croad	£1,700
Howe & Bishop	1,612
John Lay & Co.	1,579
Jas. Crockerell	1,572
*Light Bros. & Flowers	1,567

PORTSMOUTH.—For erection of convenience at Great Salterns, for the Corporation. Mr. A. W. Ward, Borough Engineer, Portsmouth :—

Jno Croad	£1,785
Light Bros. & Flowers	1,751
John Lay & Co.	1,684
*Jas. Crockerell	1,674

ROCHDALE.—For the construction of Rothesay-terrace and Neston-road, for the Housing Committee of the Rochdale T.C. :—

*R. & T. Howarth.

SALFORD.—For making-up part of Hafton-road, for the T.C. :—

*Bradshaw & Co. (Asphalters), Ltd. £860 0 3

SALFORD.—For the erection of five blocks of A type and four blocks of B type houses on the Littleton-road Housing Site, for the T.C. :—

*W. G. West, Stockport..... £16,698

SALFORD.—For sewering, &c., at Stanton, Winster and Beeston-avenues, for the T.C. :—

*T. Wilson £361 7 6

LONDON.—For the development of Bromley-road, No. 1 Section of Downham Estate, for the L.C.C. :—

Percentage quoted by Tenderer for addition to or *deduction from* (—) a schedule of prices prepared by the Council.

Name and Address of Tenderer.	Tender A. Council taking cost price risks.		Tender B. Contractor taking all risks.										Remarks.
			500 Houses.		1,000 Houses.		1,500 Houses.		2,000 Houses.				
	Houses.	Roads & Sewers.	Houses.	Roads & Sewers.	Houses.	Roads & Sewers.	Houses.	Roads & Sewers.	Houses.	Roads & Sewers.			
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.			
(a) Henry Boot & Sons (London), Ltd...	—1	—10	9	††	—	—	—	—	—	—	†† Not filled in.		
*Holland & Hannen & Cubitts, Ltd...	—2½	—2½	25	25	—	—	—	—	—	—			
P. & W. Anderson, Ltd.	Nil	Nil	12½+5	12½+5	—	—	—	—	—	—			
(a) Stewart & Partners, Ltd.	Nil	Nil	12⅝	9¾	—	—	—	—	—	—			
(a) Leslie & Co., Ltd.	1½	Nil	15	5	12½	5	10	5	10	5			
Unit Construction Co., Ltd...	2½	—3	27½	22	—	—	—	—	—	—			
R. Lehane & Co., Ltd.	1½	5	15	20	12½	20	12½	20	12½	20			
(a) J. W. Ellingham, Ltd.	2½	5	12½	15	—	—	—	—	—	—			
(b) Fred & T. Thorne	6½	—10	17½	12½	—	—	—	—	—	—			
R. L. Tonge	4	4	5	5	4	4	4	4	4	4			
(a) A. Vigor, Ltd...	3	9	18½	25	18½	25	18½	25	18½	25			
Walter Jones & Sons, Ltd.	5	3	15	12½	—	—	—	—	—	—			
Wilson, Lovatt & Sons, Ltd.	6	5	12½	11½	12	11	11½	10½	11	10			
A. & S. Wheater, Ltd.	6½	6½	10	10	10	10	—	—	—	—			
(a) Thomas & Edge	7½	5	12½	11½	12½	11½	12½	11½	12½	11½			For concrete houses—A. 10%; B. 15 %
(a) H. Kent,	7½	7½	17½	12½	15	12½	15	12½	15	12½			
W. Saint, Ltd.	8½	8½	15	15	—	—	—	—	—	—			
F. J. Stanbury	9	15	15	20	14	19½	13½	19	13	18½			
(c) Allen Fairhead & Sons, Ltd...	9⅜	2½	15	9	15	9	14½	8½	14½	8½			Various qualifications
(b) Trollope & Colls, Ltd...	10	10	15	15	—	—	—	—	—	—			Do.
(d) W. Muirhead, McDonald Wilson & Co., Ltd.	10	10	22½	26	—	—	—	—	—	—			
(c) T. Rowbotham	12	—1	15	15	—	—	—	—	—	—			Tender limited to 500 houses.
Kinnear, Moodie & Co.	12½	12½	17	17	—	—	—	—	—	—			
W. Arnott, McLeod & Co., Ltd.	15	20	15	20	—	—	—	—	—	—			
S. Gee & Sons, Ltd.	20	25	25	30	24	30	23	30	22	30			
(a) C. J. Wills & Sons, Ltd.	20	50	30	60	—	—	—	—	—	—			Offer to submit alternative proposal.
Perry Brothers	25	25	35	35	35	35	33⅓	33⅓	33⅓	33⅓			
(a) Griggs & Son..	25	40	38½	57½	—	—	—	—	—	—			
(a) Holloway Bros. (London), Ltd.	26	13½	27	15	26⅔	15	26⅔	14⅔	26⅔	14⅔			
(c) Balfour, Beatty & Co., Ltd., and F. G. Minter	28	25	50	45	—	—	—	—	—	—			Various qualifications
(a) Walter Lawrence & Sons, Ltd.	29	17½	32	19	—	—	—	—	—	—			
(c) W. Marlow & Sons, Ltd.	32½	5	45	17½	—	—	—	—	—	—			
W. Pattinson & Sons, Ltd.	33⅓	33⅓	33⅓	33⅓	—	—	—	—	—	—			

(a) Tenders A and B subject to adjustment for variations in wages.
(b) Tender B only subject to adjustment for variations in wages.
(c) Tenders A and B subject to adjustment for variations in wages and materials.
(d) Tender B only subject to adjustment for variations in wages and materials.

SALFORD.—Supply of 300 tons of lime, to the T.C. :—

*Buxton Lime Firms Co. £485

SALFORD.—Supply and erection of two fire escape staircases at Ladywell Sanatorium, for the T.C. :—

*A. Lees £187

SALFORD.—For sewering, levelling, and paving various streets, for the T.C. :—

*Thomas Wilson—			
Street behind Wainman-street and Littleton-road	£300	0	9
Street behind Chinley-street and Wainman-street	201	8	7
Street behind Chinley-street and Waverley-street	168	15	7
	£670	4	11
*Whitehall Asphalt & Engineering Co., Ltd., Trafford Park ..			
Ayrshire-road (part of).....	£1,181	0	11
Valencia-road	712	18	6
Ukraine-road	714	1	7
Mackenzie-road	1,017	18	10

SHARDLOW.—Erection of infirmary, for the Board of Guardians :—

*Stevens, Long Eaton £17,123 19

SHIELDHALL.—For construction of quay walls of new dock, for the Clyde Trust :—

*Shanks & McEwan, Glasgow £721,716

SHREWSBURY.—For erection of 24 non-parlour houses in Sultan-road, for the T.C. Mr. A. W. Ward Borough Surveyor, Guildhall, Shrewsbury :—

J. C. Vaughan, Oswestry £8,728

SOUTHPORT.—For asphalting Waterloo-road, for the T.C. :—

*Penmaenmawr & Trinidad Lake Asphalt Co.—10s. 7½d. per yd.

STRATFORD.—For preliminary road work at Seymour-grove housing site, for the T.C. :—

*Bethell & Sons £661 5 9

STRETFORD.—For reconstruction of carriageway in Chester-road, for the U.D.C. :—

*Bethell & Sons £2,444 7 5

STRETFORD.—For repaving Talbot-road, for the U.D.C. :—

*Bethell & Sons £20,448 8 3

WALTON-ON-THAMES.—For erection of assembly rooms for the Boy Scouts. Mr. G. B. Carvill, architect, Trafalgar Buildings, 1, Charing Cross, London :—

W. G. Tarrants, Ltd., Byfleet	£712
W. H. Gaze & Sons, Ltd., Kingston-on-Thames	653
E. Potterton, Weybridge	597
Nightengale & Pryor, Walton-on-Thames	595
Dillaway & Co., Kensington	587
Smith Ingram & Co., Ltd., Walton-on-Thames	579
*W. A. Annett, Walton-on-Thames.....	560

WATFORD.—For laying (*a*) 295 lin. yds. of sewer in Gills Hill-lane; (*b*) 260 yds. in Loom-lane and Batler's Green, for the R.D.C. Mr. E. Lailey, surveyor, 9, Market-street, Watford :—

F. Bracey (Roads), Ltd., Watford	(*a*)	£556 3 0
	(*b*)	720 3 6
Wiggs & Co., Radlett	(*a*)	579 0 0
	(*b*)	720 0 0
*Henry Brown, Watford	(*a*)	574 0 0
	(*b*)	668 0 0

WORKSOP.—For erection of school in Prior's Well-road, Worksop, for the Nottinghamshire E.C. :—

A. Richmond & Sons, Retford £13,200

YORK.—For fence for Fulford-road open-air school :—

*Armstrong Addison & Co., Sunderland £147 16 7

YORK.—For repairing greenhouse, asphalting, &c., at Fairfield Sanatorium, for the T.C. :—

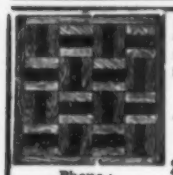
*W. Usher £209 15

YORK.—For alterations and repairs to stores at Foss Islands-road, for the T.C. :—

W. Fairweather & Son £240 4 10

YORK.—For making-up streets, for the T.C. :—

*C. Martin, Ltd., Chatsworth-terrace	£239	15	3
Berkeley-terrace	259	2	6
Back Chatsworth-terrace, S.E.	198	18	0



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